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THE NECESSITY FOR ANTI-AIRCRAFT DEFENSE OF ADVANCED BASES AND NAVAL STATIONS, ESPECIALLY AS REGARDS SEARCHLIGHTS, AND A SHORT DISCUSSION OF THE NECESSARY CHARACTERISTICS OF THE LIGHTS

By Harold C. Judson, Major, U. S. Marine Corps

BEFORE the outbreak of the present European War it was recognized that an aëroplane might carry a few hundred pounds of explosives and drop them on a fortified position, but the tremendous possibilities of the modern bombing plane were not even imagined. No night flying of any consequence had been done and no special type of weight-carrying machine had been developed to any degree. Attention had been concentrated on making flying safer and on speed. The possibilities of reconnaissance planes had been recognized, in fact, we had used them ourselves at Vera Cruz, but the fighting plane with its guns and the bomber were yet to be developed.

Now that planes have been built which can carry three bombs weighing a ton each, or five or six one-thousand-pound bombs or a multitude of small bombs, either explosive or incendiary, we find ourselves confronted with a new defense problem for the solution of which we cannot use matériel already on hand by simply modifying it slightly to meet the new function as we frequently have done in past problems. And moreover, this is a problem of most alarming seriousness. A few bombs, even of moderate size, will block the harbor of an advanced base with sunken ships, or render useless for months an exceedingly valuable naval base. The tremendous damage that a fleet of bombing planes could do to the practically unprotected train of a fleet in the crowded harbor of an advanced base had better be imagined

in advance and properly provided for than experienced. In fact, it is a matter that we must provide for or else give up any ideas of ever having an advanced base anywhere, and proceed to put our Naval Stations, which we desire to retain, several hundred miles up the Mississippi River and abandon the rest.

During the present war we built a few 3-inch guns with anti-aircraft mounts. There were not enough of them to properly equip all the vessels of the fleet which should have had them. The French also used a 75-mm. gun for anti-aircraft work. During the air raids on Paris, there was a considerable concentration of them in the vicinity of the city. The aerial barrages which they put up were a beautiful sight to see, but they never got any of the night bombing planes. The air defenses of Paris were a joke and the Germans well knew it. Every night that the planes were not busy bombing dumps or rest billets at the front, they took a joy ride to Paris and dropped a few tons of high explosive. They had the greatest contempt for the French defenses and to prove it, dropped down to the level of the housetops, circled around until one night they found the French War Ministry, the interior of which they wrecked. They had the population so terrified that the mere mention of Gothas was enough to send the people scrambling into the underground stations of the "Metro." One night so many of them tried to get into one station in a hurry that more were killed and injured than by the bombs. It is not good to have your people lose their morale like that, and it does not matter whether they are plain civilians, navy yard workmen or troops; unless they are protected from bombing they will sooner or later lose their morale and run like chickens from a hawk whenever there is any chance of a raid. It was noticed that as soon as the English installed large searchlights and guns in the defenses of London, the German, who still preferred to bomb his favorite enemy, concluded that he had better not do so and went after the less dangerous task of blowing up Paris.

In the field, the Germans used 4.2-inch anti-aircraft guns in their portable units and their fixed units were likely to be 4.7-inch. The German never does anything by halves if he can help it. We always try to see if some cheap way will suffice instead of attacking the problem with an adequate solution at the start. It is true that a 3-inch naval gun is a beautiful little

weapon to batter trawlers and mine sweepers with, but what is wanted in anti-aircraft work is a projectile which will get planes. The one sure thing in overhead shooting is that our aim will be bad and it will be luck if we get a shell close to a plane and have it burst at the right spot. On account of the inaccuracy of this kind of shooting, it is necessary that we send up a shell which will have the maximum number of fragments of sufficient size to be dangerous. Formerly, when the bombers could not carry the weights they do now or reach the present altitudes they employ for flying, this was very well done by the 3-inch guns, as their rate of fire was so high that we could cover a large area of the heavens with a few of them and keep the maximum number of fragments in the air. Now that their range is inadequate, the bomber simply flies over the barrage and picks his objective. However, this is not the place to emphasize the need of larger and better anti-aircraft guns, however pressing that need may be. Our problem is the searchlight and beyond mentioning the fact that we can pick up the bomber far beyond the range of the present guns and keep him illuminated until he has passed far beyond their range, we will not mention the guns except incidentally.

As soon as we state our problem, the average officer immediately looks wise and proceeds to announce that all of the vessels in the train will have searchlights. It is true that they have, but we do not go after a battleship with a six-pounder nor do we try to get a bombing plane miles in the air with a small marine light. It would be just as sensible to expect to repel a raiding party of cruisers with field artillery as to expect to do proper overhead work with small marine searchlights. It has been noticed that the Sperry Company has recently been marking their 24-inch marine lights as anti-aircraft searchlights. It would take a tremendous stretch of the imagination to conceive them as such. They are an excellent marine light and that is all.

After an exchange of views about a year ago in France, in which every officer who is really conversant with searchlights for anti-aircraft work participated, it was decided that on account of the developments in night bombing planes, the day of the 48-inch was passing and that hereafter we would build nothing for anti-aircraft work less than 60 inches in size. Information reports led us to believe that the German had large numbers of 2-meter lights in his defenses of points subject to bombing raids,

that at some particularly often-visited and extremely important spots, he had 2½-meter lights and that he had at least two 3-meter lights. This sounds reasonable, as we know that before the war the 2-meter light was standard with him and had been produced in large numbers and that just as the war was starting the Germans sold the Italian Government two 2½-meter lights. Two and one-half meters is 100 inches and 3 meters is 120 inches. The largest mirror we can grind in this country is 60 inches, and we cannot grind many of them. If we want anything larger, we will have to buy from our friends the enemy. It was further decided after field trials both in France and England, that the high intensity arcs such as the Beck, Harrison, Sperry or new General Electric, were not suited for overhead work, however excellent they might be for marine work. If we accept the word of those who know as final it would immediately follow that the lights on the ships of the train were both too small and of unsuitable type. Before we accept their conclusions, let us examine into the reasons for the holding of this opinion on their part and see if their conclusions are sound.

Using a parabolic mirror, if our source of light were a point placed at the focus of the mirror, the beam would be a cylinder, the diameter of the door. The concentration of light on a small area would be very great and the range tremendous, providing, of course, that it were possible to get anything from a point of light. A point is an abstract quantity. It has no dimensions. Our source of light has appreciable dimensions and the beam is not a cylinder but a truncated cone. This means that no matter where the observer stands, he has to look through the beam. The closer his line of vision is to parallelism with the axis of the beam, the more illuminated atmosphere he will have to look through. We know that the blue waves of light suffer a high degree of reflection from atmospheric particles. What we call the sky is merely the reflection of the blue waves from these particles. There is no sky and were it not for our terrestrial atmosphere, the heavens would be black and the sun, when visible, a blazing ball of fire. Sunlight, which is a mixture of all visible waves and many invisible, we call white light. We find that if we heat a body slowly, carbon, for example, the first visible thing we notice is that the heated body becomes dull red, then bright red, yellow, then white, and finally it becomes bluish white with a corona

effect. Heating it further does not result in any increase in the light but instead we simply get a very rapid vaporization of the carbon. This is what takes place in a searchlight. Carbons of the old low-intensity type gave us yellow light, new carbons of the medium intensity type give us white light, and the gas arcs of the high intensity type used in the Beck, Harrison, Sperry or similar lamps give us a bluish-white light. A blue beam is desirable when we are after a blue object. An object is any particular color because it reflects that color and absorbs all others or reflects them very feebly. It must be remembered that it is not what comes out of a searchlight that counts except insofar as it affects what happens afterwards; it is what is reflected back to the eye of the observer which is important. As a blue object reflects blue waves, we go after a blue target with a blue beam and get a large amount of reflection back to the eye of the observer from it, thus rendering it very visible. The naval vessel is slate color, a shade of blue, and from this we deduce that the high intensity arcs are excellent for naval work. They are, but the very property which makes them so good for naval work ensures that they will be unfit for anti-aircraft uses. The blue in the beam illuminates the atmospheric particles highly and the observer cannot see through the cone of illuminated atmosphere, and even when the target is illuminated, he does not know it.

Having decided that a blue beam is bad for anti-aircraft purposes due to the reasons stated, the thought would at once occur that we might eliminate the blue in the beam and be able to see through it. That is what the Frenchman did. The air in most of France and all of England is usually very misty. Even with a beam of white light, there was great trouble seeing the target as there are many more atmospheric particles to reflect the blue waves than we encounter in countries with clearer skies. As a consequence the French adopted a golden mirror. This type of mirror reflects the yellow waves readily, most of the other colors partially, but the blue suffers little reflection. It gives a beam of soft, pleasant light, excellent for field work, where the yellows, browns and greens predominate. It was thought to be good for anti-aircraft work as long as the raiders were Zeppelins which operated on dark nights, but as soon as the bombing planes made their appearance, it was noticed that there were a variety of troubles. It is difficult to see an ordinary beam on bright moonlight nights and

the Harlé beam could not be seen at all. Planes were known to be about but the beam did not show them up well. Finally a plane was located by its shadow on the clouds behind it, although the plane itself could not be seen and by luck it was brought down. Then it was discovered that the Germans, knowing that blue was lacking in the French Harlé searchlight beam, had painted their night bombers a dark blue. There was nothing in the French beam to illuminate such a plane as it reflected back only dark blue, the particular color missing in the searchlight beam. Thus we see that we must use white light in anti-aircraft work, for if we have any color missing, our enemy will discover it and paint his night flying craft with that color. White light is a mixture of all colors, so if we stick to white, colored paints will not help the plane much, although a dull dark blue will give little contrast against the sky and dark blue and black reflect back but little light even when highly illuminated. This brings us to another point. If we are to get little reflected back, we must send up a great deal so that the proportion reflected back to us will be the maximum possible in quantity. This in itself means tremendous power. Although it is not material to this discussion, before leaving the subject of golden mirrors, we might remark that a searchlight equipped with them would be of little use on marine work as well as anti-aircraft so long as the principal nations of the world paint their vessels of war a slate blue. We may summarize by saying that the high intensity arc will not do for anti-aircraft work, although excellent for marine and that the golden mirror is extremely bad for marine work and not much better for anti-aircraft, no matter how good it may be for field searchlights for landscape illumination.

At first when bombers were careless as to their painting and flew at low altitudes, the necessity for great powers in defensive searchlights did not appear, but as the bomber began to fly at greater and greater altitudes, the searchlights had to be increased in size and power accordingly. Fortunately this is a simpler problem than the development of anti-aircraft ordnance and we can still pick up the approaching bomber if we desire, long before the guns can reach him and hold him long after the guns are out-ranged.

To get high power in searchlights, it is necessary, like the guns, to go to larger diameters. One might say that if it be

desired to increase the power of a gun, we should use a longer shell and drive it faster. We immediately reply that this is not practicable. It is the same with a searchlight. In order to get more power, it is not enough to increase the current and use larger carbons. There is a limit to the energy that can be loaded onto a mirror. The mirror is heated through the absorption of light rays by the glass of which it is composed. It is also heated through its proximity to the arc. If we go too far the mirror breaks. There is also another point not at first sight apparent. We have already spoken of the splay of the searchlight beam. By using larger carbons in a searchlight with a proportionate increase in the current, we do not get an increase in range as the source of illumination is not of any greater intrinsic brilliancy than before. We merely get a wider beam and no more range. While our listening devices are rather inaccurate and we sometimes have difficulty in finding a distant target, hence it would appear that the logical solution would be a wide beam, we find that it is better to use several lights with narrow beams than one with a broad one. There are two reasons for this, the first one has already been mentioned and is readily apparent. It will be necessary for the observer to look through considerable highly illuminated atmosphere and the chances are that he will not see the target or that he will not be able to see it well.

The other reason for the undesirability of a wide beam is a matter of optics which will require a slight knowledge of mathematics to understand. For reasons which it is unnecessary to state here, searchlights use a mirror of parabolic cross-section with a focal length of about 40 per cent of the diameter. Thus a 30-inch mirror will have a 12-inch focal length and a 60-inch will have a 24-inch focal length. If we take the same pair of carbons with the same current, the diameter of the source of illumination will remain constant. Putting this pair of carbons in a 30-inch light means a certain splay of the beam. If we put them in a 60-inch light, the diameter of the source of illumination remains the same but it is twice as far from the mirror. As tangents vary with the angles in the cases of very small angles, the splay of the beam with the carbons in a 60-inch light will be half what it is in a 30-inch. Also, as at any considerable range from the light, the diameter of the front door becomes negligible to all intents and purposes, we find that the beam diameter of the same pair of carbons heated by the same current is twice as great in the 30-

inch light as it is in the 60-inch. Now if we shine these beams on a flat target at right angles to the axis of the beams, we find that the area of the illuminated circle from the 60-inch light is one-fourth that from the 30-inch. (The areas of circles vary as the squares of the diameters.) Thus we have the same illumination spread on two different areas, one four times as large as the other. This means that the smaller area will be illuminated four times as highly as the larger. Thus by merely using a mirror twice the diameter, we have increased the illumination on the target to four times what it previously was without changing the carbons or the current passing through them. From this we may deduce the rule that other things being equal, the illumination on the target varies as the square of the mirror diameter, and as we have just shown, the 60-inch light is not twice as good as the 30-inch; it is four times as good. The reasons for large mirrors are now apparent, and it is evident that to increase the power of a searchlight it does no good to increase the size of the carbons and the current passing through them, that merely gives a wider beam. We must increase the mirror diameter. Here some might say that the thing to do is to keep the size of the carbons what it was before and increase the current so as to get a hotter crater. There are two reasons why this cannot be done. We have already done it so far as we can some time ago is the first and a sufficient reason in itself, and the other reason which governs the first, is that we cannot heat carbon beyond its boiling point unless we increase the boiling point by increasing the pressure within the barrel, a hardly practicable thing to do. So far two points of our problem in providing searchlights for anti-aircraft protection have been solved. The lights must be of the medium intensity type so as to get white light, and they must be of the maximum possible size.

Having decided on what we will select for our matériel, let us now examine the problem of how we will use it. With anti-aircraft searchlights, the problem is different than with the other two types. Unlike ordinary projectors, the anti-aircraft searchlight is not only called upon to shine in a horizontal or approximately a horizontal direction, it must in addition be able to shine in any direction whatsoever. Its normal use will be in a nearly vertical direction. As the bomber is most dangerous when at or near the zenith, it is apparent that the projector must be capable

of passing the zenith. At this time there is the most likelihood of destroying the plane as it is at its lowest altitude and the least range that it will attain. Consequently, lights which will not pass the zenith but which will have to be brought to the zenith, swung 180° in azimuth and then the target picked up again, are sadly defective from a tactical standpoint and should not be provided. Sperry lights are so constructed that they will go but little past the zenith, which is another reason that disqualifies them as true anti-aircraft projectors. We have trouble with all high intensity arcs in passing the zenith, as their source of illumination is a little ball of incandescent fluid which is imprisoned in the deep crater of the positive electrode. This little ball of fluid has a trick of poping out of its prison when the lamp is operated upside down. The manufacturers of high intensity arc searchlights will tell you that this is not so, but if we look behind the scenes and examine some of the mirrors in their own test rooms we will find evidence that it is so and the inspectors detailed at the factories will tell you that it is so when questioned about the matter. These facts merely furnish additional reason for the conclusion that we have already made that the high intensity light is unsuitable for anti-aircraft work. The further point that has been demonstrated is that from the nature of the duty it is to perform, the anti-aircraft projector must be so mounted that it can point in any direction without the necessity of revolving at 180° in azimuth.

The pilots of bombing planes like to fly at as low an altitude as they can. That betters their chances of finding their objective and hitting the precise spot they intend to bomb. Increasing the effectiveness of the anti-aircraft guns drives him to a higher altitude and decreases his chance of finding his objective and even if found, his chances of hitting the spot he desires with his bombs are much lessened. Up to 11,000 feet altitude, the present guns are fairly effective, providing the gunners can see the target and they are not bothered in spotting by other batteries firing at the same plane. The aviator does not like to fly at these great heights. Under present conditions we find that the maximum distance we can pick up the plane is around twenty thousand feet from the light, but once picked up we can carry him to thirty thousand feet from the light. If he comes over at a fifteen thousand-foot altitude, this means that we can carry him until his angle of elevation is 30°. The guns cannot reach anywhere near

this distance and work with any accuracy, if at all. The distances quoted were for a 60-inch light, large bombing plane and an ordinary clear night. The bombing raids on Paris proved that barrages directed by the sound detectors were of no use and merely resulted in a tremendous waste of ammunition that we cannot afford on Advanced Base operations. Barrages might be described as a hope of frightening the bomber away rather than a sure means of destroying him. To get the night bomber it is certain that we must show the target to the guns and keep it in the beam until the batteries have gotten the range and necessary data and bring the plane under effective fire. When we have done this we have done our part but to do it is a problem. Electric distant control will not do it. Directing the pointer by telephone messages from an observer at a distance will not do it as this is not quick enough to follow the plane if the pilot tries a few stunts. Ordinary hand control, which places the operator too close to the light where he can see but little, will not do it. The only apparatus which will do it is the British pipe control. Here we attach a fifteen-foot pole to one trunnion of the searchlight. On the pointer's end of the pole is a large wheel like a ship's steering wheel. Revolving the wheel revolves the light in elevation. Walking around in a circle pushing the pole before him revolves the light in azimuth. The operator is far enough from the light that he can see fairly well and if assisted at the longer ranges by a distant observer, the apparatus works very well. It is certain that there is nothing better. This pipe control might be described as a horizontal development similar to the Navy vertical mechanical control, except that it is in the other plane.

The anti-aircraft searchlight does not have to fear infantry or artillery fire. The only projectiles with which it will have to contend are those from above, either bombs dropped in the vicinity or some fighting plane which type frequently escort the bombers, dropping down and shooting out the light with his bow gun. The only protection from this kind of attack will be local. The bombers are the dangerous enemy. They must be kept illuminated and the batteries must give them full attention. The searchlight will consequently have to look out for itself. We can mount a Lewis gun on or near each searchlight, preferably two. The present Lewis gun is of rifle calibre, but it is

hoped that a successful one-pounder can be developed for this duty, the shell to be high explosive with a delicate impact fuse. As a protection against bombs, we should put the light in a pit so that the top of the light will be just below the ground level. Then anything but a direct hit is negligible. A direct hit means annihilation, but due to the great height at which the bomber is compelled to fly, there will be no direct hits.

At first the crew will be very nervous when bombs are dropped nearby as they rock the ground and are accompanied by an enormous flash and a roar, but after a few have been dropped nearby and the crew find that as far as they are concerned, the bombs are more noisy than destructive, confidence will return and there will be no difficulty in keeping them at their stations. It is easy to see that the generator set should, if possible, be protected in a similar way by placing it in a dugout. Here we must make the point that coupling a dynamo to the truck engine and attempting to use it as a generator set is bad, not only because it gives us the poorest possible kind of a generator set, but also because we cannot take the generator set off the truck and put it in a casemate. Large bases consisting of harbors filled with transports, fuel ships, disabled vessels, supply ships, etc., are stationary. They cannot be moved any more than naval stations or shore bases consisting of storehouses with miles of railroad track, or a city can be. Anti-aircraft searchlights for the defense of such places need not be extremely portable like field searchlights must be. I mention this fact because some of our associates in military work have proceeded to build anti-aircraft outfits and mount them on a sixty-mile-an-hour machine. Their field searchlights they made as unwieldy as possible and finished up with an outfit that was horse-drawn and could not be taken into action without being lost. Inasmuch as we should shift about our searchlights after each bombing raid so that the ground will look differently each time the enemy comes over it and he will not be able to use our searchlights as lighthouses and consequently we be in the position of furnishing him with aids to navigation, we should have two or more pits for each light. With six hundred feet of cable we can readily shift the lights about to different pits without disturbing many, if any, of the generator stations. On account of the fact that there is no reason here for separating the generator set and light a longer distance than the splash of a

bomb, we have decided that six hundred feet of cable which gives us a 24-volt drop, sufficient for steadying purposes as far as the arc is concerned, is a great enough distance to separate generator station and light, especially as the cable (No. 00) is very heavy. The copper in it alone will weigh nearly five hundred pounds.

As bombing planes fly at a speed of about 70 miles an hour loaded, and as we have found that the altitude that he will try to come over at will be fifteen thousand feet or thereabouts, the best that we can do is to pick him up at about 45° from the horizon and carry him to 30° from the horizon and the light will not be called upon to shine for any great length of time. Even assuming that we can pick up the plane at 30° from the horizon, and assuming that he did not follow an exactly straight course from this point to where we lose him, but instead has tried a few leaf flutters, tail spins, side slips, etc., to get out of the beam (he hardly will try them if loaded with any quantity of bombs), he will cover approximately sixty thousand feet while in the beam. Assuming five thousand feet to the mile and a speed of sixty miles an hour, the bomber will be in view but twelve minutes. From this we can see that the batteries must work quickly and that ventilation in the searchlight need not be carried to extremes. The normal position of the searchlight will be pointing at a high angle and ventilation in the anti-aircraft light must be arranged accordingly, not for the horizontal position as in field and harbor defense lights. Our generator set must be capable of starting instantly and of delivering full power from the start. In order to get full efficient service from the carbons, they must be kept hot or splitting and cracking will result. It has been the practice of the Coast Artillery to heat them before a run with a small pilot current, but this is hardly necessary. A small device like a fireless cooker may be carried on the searchlight cart where the carbons may remain all night without losing their temperature. Heavy oil engines, which require many minutes to warm up and get started, are not suitable, nor are shunt-wound dynamos which drop their voltage when the arc is struck. In fact, nothing but a flat compounded dynamo will do this work. These things are mentioned because the writer found in the aerial defenses of London shunt-wound dynamos coupled to heavy oil engines. On many occasions several of them were successful in getting into action several minutes after the raid was over.

Before going any farther it will be well to mention another protective effect of the searchlight besides showing the target to the guns. The aviators are dazzled by the brilliant beam and cannot always find their major objective. Usually they cannot find the particular spot they are to hit and have to drop their bombs at random or take the chance of carrying them home, which they seldom care to do. Barrages of illuminating flares are of no use. They do not dazzle the pilot but instead, being so low, they actually light up his objective for him. Now that the inflammable Zeppelins are no longer used on raids, there is no excuse for their existence. The pilots of our own bombing planes working in northern France stated that they feared the searchlights more than the guns, for which they expressed great contempt. They considered the lights without the guns more protection than the guns without the lights.

Triangles of about two thousand yards to the side furnish the best disposition of anti-aircraft searchlights. The cordon system of defense is very bad as the relative results at Paris and London showed. Our aviators state that although the seventeen large brilliant lights about Bruges were very troublesome, nevertheless, they never had any difficulty in finding the city, as all they had to do was to head for the center of this ring of light, then drop down and they were right over the city. The bombing plane, as a rule, follows the natural means of approach, such as rivers, canals, railroads, and roads to get to his objective. The thought immediately comes that knowing the means of approach that he will use, why not intercept him on the way and either destroy him or drive him off before he gets to any position from which he can do damage. This is an excellent idea, but we must not do it in such a manner as to lead the enemy to his objective. The English, knowing that the German would follow the river to get to London, had searchlights at the mouth of the Thames, as well as in and about London. In their eagerness to get the German, they turned on their searchlights too soon and as one English officer remarked: "All the German had to do was to follow the brilliantly lighted boulevard to the blaze of glory at the end and then he knew that he was over London." This emphasizes the fact that Battery commanders, who are always eager to get their guns into action, should not have control over the searchlights, but the lights should be handled by the fire control officer

and by him only. Lights should be turned on in such a manner as to lead the enemy away from his objective and not toward it. In this connection, it is impossible to lay down any hard and fast rule as to where the searchlights at hand should be placed. The best that we can say is that they should not be placed about the spot to be protected in a ring, but should be so placed that one can pick up a plane as another drops it, and they must not be turned on too soon nor handled by a group of individuals. Instead the lights in any particular area should be controlled by one man. The rest will have to be left to the ingenuity of the defense commander to best use the matériel that he may have at hand for the solution of his particular problem.

The tactics used by the enemy in bombing raids are best described by quoting from an article in the Koelnische Volkszeitung (*Cologne Peoples' Daily*), written by Kapitan-Leutnant Freiherr Treusch von Buttlar-Brandenfels, reprinted in the proceedings of the United States Naval Institute, on Zeppelin raids on London.

"Air raids on England are dependent upon weather conditions and the phases of the moon. A raid is only possible when there is no moonlight. (With bombing planes, the reverse is true. H. C. J.) This happens for about twelve days in each month, lasting roughly, from the last to the first quarter. An object as large as an airship forms, even at a great height, an excellent target for aircraft guns, and during the course of this war the art of shooting at objects in the air has been thoroughly learnt. An airship in attacking must always do so under cover of the night. . . .

"Every commander has the most explicit orders concerning the forthcoming enterprise, with full details as to the objective, and anything else of importance. Punctually at the appointed time the various airships leave their sheds, and take a westerly course towards the English coast. After leaving the German Bight, and approaching the enemy coast the airship continues to rise, until shortly before the enemy coast appears, it has risen to its greatest altitude. . . .

"An air raid on London, the finest I have experienced up to now, was successful down to the last detail, and forms a capital example of a well-led attack. We had arrived with several of our airships in the neighborhood of Winterton, ENE of Norwich,

close to the coast. Slightly to port close in front of me, was E-31, which disappeared in the darkness about a quarter of an hour later. As soon as we arrived at the coast we saw signs of animation down below. Searchlights sent out their rays, sweeping the sky in every direction, but were not able to find and hold any one of the airships. On these occasions, when we realize that a searchlight is just in front of us, we make a dash to try to get out of the way, and generally succeed in doing so, for the English cannot possibly send out searchlights all over the sky, and it is most annoying to be picked out by one of these lights and to be fired on by the batteries belonging to it, before reaching our objective.

"The most favorable weather, therefore, is when a slight haze covers the coast, which does not prevent our being able to see below, but makes it difficult for the airships to be seen up above. These ideal conditions, however, seldom occur.

"I kept a straight course from Winterton to London, and during the whole voyage over English territory I did not see a single light, although the air was quite clear, until London came in sight. The distance from Winterton to London is about the same as that from Bremen to Kiel. One can imagine what it would mean to entirely obscure such a tract of country so that no gleam of light is visible. It means the crippling of all the railway traffic in the district, as no train is able to run without signals or station lights. We have often heard that trains, especially in the neighborhoods subject to air raids, have been dreadfully late, or have not been able to run at all. We must say, however, that during the war the English had learnt the art of obscuring the landscape to perfection. It is one of our first successes that air raids like these compel all traffic to cease, at all events while the raid is proceeding, and on how many occasions are the towns plunged into darkness when our airships are in the neighborhood of the English coast simply for purposes of reconnaissance? But how do we find London when all is darkness? That is a comparatively simple matter, for, firstly, it is impossible to plunge a huge city into such darkness that no light of any kind is visible. Secondly, London lies on the Thames, and that river, with its peculiar bends, forms an excellent means of seeing how the land lies. I simply hold my southwesterly course until I have the Thames and then continue up-stream

until I reach the capital. Thirdly, the finding of London has been rendered easy by the English themselves, because they get so nervous when a raid is expected. One notices that by the aimless way in which they direct their searchlights at first, and when from a considerable distance one sees a collection of rays going straight up into the air, one naturally imagines that there is something the matter, and that there London lies.

"Shortly before the attack the last water ballast is thrown overboard, so that we can rise still higher, and the order is given to the mechanics, 'Full speed ahead.' It is a matter of getting over the city and away again as quickly as possible.

"The Watch Officer tests the bomb throwing arrangements, which are electrically worked. The trap doors in the gangway are opened so that the bombs may fall straight out and down. The commander of the ship communicates with the men in the gangway, who are dealing with the bombs, by means of a speaking tube from the gondola. Directly the airship reaches the outer circle of the city, pursuing an easterly or northeasterly course across it, she is surrounded by any number of searchlights, and covered by the fire of their batteries. I have on each occasion counted from twenty-four to thirty huge searchlights, of enormous power, apart from innumerable smaller lights. The airship is discovered immediately the searchlights begin. Generally the whole of the lights are turned onto one airship, so that it is brilliantly illuminated, and it is so light in the gondola that one can easily read a paper. This is a great advantage to us and is provided by the English themselves, as we are able to study the maps and the plan of London lighting, and we are able to direct our attack accordingly.

"Simultaneously with the searchlights a tremendous defensive fire from guns of every calibre up to 5.9-inch begins. None but those who have experienced it can imagine the amount of matériel hurled at us. But, as we know, every bullet does not find its mark, and the aim is generally so bad, owing to the excited state of the gunners, that the salvos are mostly received at the back of and underneath the airship. Shooting at objects in the air at night-time is extremely perplexing, because it is almost impossible to note the salvos in the air, and it is, moreover, very difficult to discover the shell bursts of various batteries, in order that the aim might be improved, as these batteries are situated at considerable distances from each other. . . .

"The departure from the town is rendered extremely difficult by the enemy, for he begins a kind of barrage fire in the east, and makes fresh use of incendiary shells. We suddenly see before us in the air a whole row of these brightly burning little balls, one of which is sufficient to set the airship on fire and completely destroy it. We try to get out of their way. Only when we have passed the zone of searchlights have we time to look at what we have accomplished down below. Below us in the enemy city are wide sheets of flame, fires caused by our explosive and incendiary bombs.

"An aëroplane is a disagreeable opponent, because one sees it seldom, then only with difficulty, while the aëroplane can easily find the airship, which is clearly visible owing to the searchlights. We cannot, of course, hear an aëroplane, because our own engines make so much noise that hardly anything else can be heard. If the aëroplane manages to reach the airship and rises above it, the latter is generally done for, as the aviator shoots at the airship, which is filled with gas, and sets it on fire, as they do almost every day to the captive balloons at the front. Against these tactics there is only one means of escape and that is height. As a matter of fact, an airship is able to rise to a greater height than an aëroplane, and is also (and this is the chief point) able to remain at a great height considerably longer than the latter, for the simple reason that flying at a great height is much more strenuous for an aviator, because he is obliged to exert himself far more than in an airship, and, in the second place, it must be remembered that an aviator can only take a limited quantity of benzine. The airship, on the other hand, is easily able to remain several hours at a great height. The height is really an advantage in one way, as I am able to economize in benzine, etc., as the engines need much less fuel in the rarefied atmosphere. When an aviator comes anywhere near our ship he is at once covered by machine-gun fire from the gondolas and platforms.

"After the attack, we, of course, make for home as quickly as possible with the wind behind us, and generally take a north-easterly course out of London. The fires of the west and north-west coast of Holland are generally taken as the points toward which to steer for the German Bight." *Army and Navy Gazette*, 12–10.

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is no moon. The bombing planes prefer the bright moonlight nights as the pilots are able to see better in the bright moonlight and the aëroplane itself is not visible unless accidentally silhouetted against the moon. The Zeppelins on account of their great size and ready visibility cannot operate on bright nights. As raids by Zeppelins are practically a thing of the past, it is the raids by the bombing planes that we must provide for, and as the beam of a searchlight equipped with a Harlé mirror is very difficult to see on moonlight nights, we perceive immediately that the Harlé light should not be used.

Like the aëroplane, the Zeppelin gains altitude all the time that he is approaching his objective so that immediately before reaching it he is at the maximum height that he can attain. This is done in order to get out of reach of the anti-aircraft guns, but as the writer continually admits, he never gets out of reach of the anti-aircraft searchlights once he is anywheres near them. Here we see, and it has been repeatedly shown to be true on the Western Front, that the searchlight is a far more perfect machine than the anti-aircraft gun, and the searchlight can get the target and hold it at ranges at which the guns have had little success. May it ever be thus!

The writer stated that as soon as he reached the coast, he noticed searchlights sweeping in every direction, but that they were unable to find and hold any one of the Zeppelins. The reason for this was twofold; first, the coast defenses were not equipped with listening devices and the searchlight operators were trying to locate the Zeppelins approximately by ear and then exactly by searching about the spot where they thought the airship was. From the writer's description, it was evident that the searchlights were not handled in a systematic manner and were not under the direction of a single individual. The second reason why the coast defense searchlights did not get the airships was the haze which was particularly mentioned as most desirable. The coast defense searchlights were Harrison naval lights, a modified form of Beck lights, and they have that same impenetrable blue beam which is characteristic of all high intensity lights. When the raider got to London, he found that the anti-aircraft searchlights had no difficulty in getting on the target at once and the reason for this was twofold. The searchlights were equipped with efficient listening devices and they were true

anti-aircraft searchlights, not marine lights used in a vertical direction. It was evident from the description that unfortunately, the lights in London were not controlled by one person, and in describing his approach to London he stated that he steered for the Thames and then followed it to the city, that before he reached the city the English got nervous and commenced turning on the lights in the city, thus betraying its location. From this we see how important it is that the searchlights shall be under the control of the defense commander and controlled by him alone; that we must make it impossible for some impetuous battery commander to turn on the lights in his vicinity just because he thinks that he has a likely target nearby. After the English learned to hold their lights in check and not lead the raider to the target, there were many occasions when the objective was missed entirely, such as in April, 1918, when London was not found at all and the raiders after wandering about England for some time finally dropped their bombs on Wigan, which is near Liverpool, many miles from where they intended to strike. Also the searchlights should not be directed in the aimless way which the writer spoke of, but each group of lights should be given a specific target to illuminate and restricted to that target only. Then the remaining groups are available for the remaining targets and this concentration of all the lights in the vicinity of one airship, which is mentioned, leaving the remainder of the Zeppelins to work unobstructed, would be impossible. It is nothing but our old marine problem in a vertical plane instead of a horizontal, and we should carefully avoid allowing the enemy to put out a decoy on which we will concentrate all our lights and all our guns. Moreover, by putting one group of lights and one group of guns on each particular target, spotting becomes feasible and we will have much more accurate anti-aircraft fire as a result.

The searchlight has a further function: In addition to showing the target to the guns, it also shows the target to the defense fighting planes and it is therefore desirable to keep the lights on the target continuously, even though the batteries for one reason or another, may not be able to fire effectively. Were the battery commanders handling the searchlights, as they unfortunately did in the London Defense, as soon as the target got away from their particular zone of fire, they lose all interest in it and turn out their lights or go looking for another target, and from the re-

ports of the defense aëroplane pilots, they frequently did so just as the defense aëroplane was getting into a favorable position to attack the enemy machine. The target should be invariably passed from one light to another and kept illuminated as long as there is a searchlight which can reach it irrespective of whether or not the guns may be able to fire.

The writer spoke of the lighting plans of London and it was easy to read between the lines and to see that the Germans had charted the searchlights in London and were using them as lighthouses, getting from them exact fixes of their own positions. The searchlight stations in London were permanent and the lights were always turned on from exactly the same places, and what we have already spoken of: That we must make the ground look differently every night the enemy comes over, is brought to our notice again, and again impresses itself upon us as being a most important point. Every time there is a raid, the searchlight positions must be changed, so that the ground will not look familiar on the next one.

It was mentioned that aëroplanes could be avoided by rising to a considerable height. In the early days of the war, when the Germans were making frequent Zeppelin raids and the aëroplane had not reached the stage of development that it has reached now, this was true, but with the fast, quick-climbing planes of the present, Zeppelins would not stand much of a show, and would not be able to get away by quickly rising to a great height. However, the fact that the attacking party, whether it be the Gotha bombing planes headed for Paris or Zeppelins headed for London, always rises to the maximum height that he can attain, before reaching his objective, and as this height is fifteen thousand feet or more, two things immediately become evident: First, that our searchlights and our guns cannot have too long a range and, secondly, with which we are not concerned, that our defense planes must endeavor to gain altitude from the time that the alarm is given until the attacking planes actually arrive.

The need of an ample number of the largest possible searchlights for the defense of naval stations and Advanced Bases is so evident that little space is given to representing that necessity. In the discussion we have endeavored to give some idea as to what the type of light should be, how it should be protected, what tactics to use in its handling and what not to use, so that

any officer may see not only the necessity for adequate protection but may also understand in a general way the limitations of the searchlight and its abilities and may thereby be enabled to form a correct estimate of just what the mission of the searchlight is in anti-aircraft defense.

We may describe this mission of the searchlight as having a three-fold nature: First, to blind the aviator. This prevents him finding his objective and renders him helpless in repelling an attack from one of our own fighting planes. Second, to show the target to the guns and allow them to have every advantage in solving an extremely difficult problem. Third, to show the bomber to our own fighting planes. If the searchlight does its part, and if it is backed up with improved and highly efficient anti-aircraft guns and plenty of fighting planes of great speed and climbing powers, our Advanced Bases and naval stations will be reasonably safe from aerial attack, but if the searchlights are lacking, we may as well save the cost of the other two elements as far as night work is concerned.

WHERE SHOULD ADVANCED BASE ORGANIZATIONS BE PERMANENTLY STATIONED?

By Major Samuel W. Bogan, U. S. Marine Corps

1. The determination to locate our forces at particular points is greatly influenced by one or more of the following reasons: Geographical, external political, internal political, and racial.

2. The term "external political" embraces such items as expansion policy, acquisition of new territory, either by force of arms or other means, protecting of smaller nations from larger, aggressive neighbors, policing of countries with unstable governments, the settling of national disputes, which become a menace to our United States, and the probability of war with another major power. "Internal political" not only carries with it our own political situation, but also the form, strength and stability of all those governments that we are bound to protect or to keep in an orderly condition. Racial includes such characteristics as the temperament, mental and moral standards and physical qualifications of the people in question.

3. As Advanced Bases are for purely naval purposes, it becomes at once apparent, that a close coöperation with the naval forces is absolutely essential. Consequently, it must be continually borne in mind that all plans, for permanent or temporary locations, must consider the needs and requirements of naval fleets or subdivisions thereof.

4. Since our acquisition of the Virgin Islands from Denmark, the political aspect of the West Indies has changed considerably; an old-world power has been eliminated as a near source of irritation, while additional strength has been brought to our own people, not only territorially and commercially, but from a standpoint of naval strategy and tactics as well.

5. It might be well to have in mind a list of American neighbors, whose internal affairs have been so upset for some years past, that a close supervision on our part has been imperative to prevent total disruption: Mexico, Nicaragua, Republic of Panama, Cuba, Republic of Haiti, and Dominican Republic.

6. A feature of supreme importance and one of greatest international value is the Panama Canal. Carrying with it a weight secondary to no other individual factor in the Western Hemisphere, it must be constantly kept in sight, not only from a commercial viewpoint concerning the trade of merchant vessels, but from its unquestioned worth as a strategic highway for ships of war.

7. Before finally selecting permanent locations for the Advanced Base Forces, including those already organized and those still in embryo, it is imperative that a thorough study be made of the geographical position of our country, and outlying possessions, in relation to our neighbors.

8. This study should be taken up under five general headings; the Atlantic Coast and Waters, the Gulf Coast and Waters, West Indies and Waters, the Pacific Coast and Waters, and the Pacific Islands (American owned) and Waters. These five main divisions must embrace the following features:

Proximity to Probable Scene of Trouble.

Available Seaports or Points for Embarkation.

Available Means of Transportation.

Number of Troops and Amount of Equipment Considered Necessary.

Ports of Debarkation at or in the Vicinity of the Scene of Trouble.

9. Beginning with the Atlantic Coast, such Navy Yards and Marine Posts as Portsmouth, N. H., Boston, Newport, R. I., Brooklyn, Philadelphia, Washington, Quantico, Norfolk, Charleston and Port Royal (Parris Island), fulfil one or more of three purposes; (a) construction and repair, (b) supplying with both stores and men, or (c) training of personnel.

10. Of these places, considering Portsmouth, Boston and Newport as too far distant from the probable scene of trouble, Philadelphia, Quantico and Parris Island afford ample barracks rooms for the Advanced Base Troops, but do not give sufficient or desirable anchorages for the ships and transports.

Glancing at the map it can be seen that the location most suitable for the instruction and requirements of the Advanced Base Forces, on the Atlantic Coast, will be found somewhere within the Chesapeake Bay Region.

11. It only becomes necessary then to determine upon some spot, which is accessible both by rail and by steamer, and which affords ample space for the proper instruction and work of the land units, and protected water accommodations of sufficient extent for the ships. A tract of land of proportions commensurate with the training of such units as Artillery, Signal and Radio, Infantry and Engineers, will be required. In addition, a water area of varying depths, and away from the regular commercial channels, must be near at hand for Submarine Mining Work, with provisions for Hydroplane and Aëroplane flights.

12. As these exercises are to be carried out in conjunction with the fighting ships and train of the fleet, the maneuvers should be so arranged as to afford ample opportunity for judging the probable success or failure of these joint operations.

13. Such a base as described can be made from the one already established for the fleet at Yorktown, Virginia, on the York River. Another admirable situation for this type of base is at or near Crisfield, Maryland, located between Tangier Sound and Pocomoke Sound. This town has a direct railroad communication, which Yorktown lacks, and is easily accessible to the Marine Corps Depot of Supplies at Philadelphia. Its immediate waters provide a much more extensive anchorage area, affords better opportunities for submarine mining work and permits the use of extensive water areas for artillery firing without danger to existing lanes of traffic.

14. The Gulf Coast has the following stations: Key West, Pensacola and New Orleans, with Galveston as a further possibility. None of these, however, offer any advantages over the Atlantic Coast locations and possess a number of undesirable features, such as climatic conditions, unsuitable terrain for the housing and instruction of the land forces, inadequate or unsheltered anchorages, poor geographical positions and distances from the probable lines of naval strategy.

15. The third phase (West Indies) brings with it certain features of special interest, which are not found in the preceding main divisions. In Cuba, Guantanamo Bay and Guacanabo Gulf are fairly well suited for the object sought, but lack several items of importance, which are found in more suitable localities.

Porto Rico has no adaptable place for the establishment of a base.

St. Thomas and St. Croix lack protected anchorages appropriate for the purpose.

Culebra is small and can be well fortified against landing parties, but its anchorage is poorly protected against the weather and vulnerable to long range gun fire, especially from the southeast. Unless extensive mine fields are planted in the numerous passages and channels, the desirable water areas will be subject to attacks by submarines and destroyers.

16. Glancing at the map we find, in the northeastern part of the Dominican Republic, Samana Bay, a landlocked body of water, which with its surroundings meets so many of the most important specifications, that its choice as the first selection can scarcely be questioned.

17. Samana Bay is of such extent, about 25 miles long and 10 miles wide, that it will easily accommodate the fleet and train. The base can be so situated as to remove the ships sufficiently from the entrance, to prevent destruction by long range gun fire from hostile vessels outside. Mine fields and submarine nets can be so utilized as to deny the entrance to submarines, destroyers and other craft, the mine fields and nets being covered by short batteries. The extensive water area permits large scale artillery practice at water targets, by the land guns, with the coöperation of hydroplanes and aëroplanes, without resorting to open sea work.

18. Hostile craft can be kept at a distance by large caliber guns; the beaches and desirable footholds can be effectively protected against the landing of troops by concealed batteries of howitzers and small calibre guns. Long distance scouting and aerial observation can be taken over by seaplanes and hydroplanes.

19. The land along the northern shore of the bay is of such width that no effective bombardment across this neck could be undertaken by ships outside, except when well in shore and within range of the defenders' guns. In addition, the ground rises to heights sufficient to prevent any observation and control of fire, other than by the use of aircraft.

As the only means of land communication into this peninsula is through the western end, this section could be heavily fortified against any armed attacks coming from that direction.

20. Samana Bay occupies practically the center of an east and west line, beginning at the Island of Barbuda and ending with

Cuba; to use a more professional term, it is the strategic center of this group of islands.

At the very mouth of Samana Bay lies Mona Passage; to the west is Windward Passage and eastward are the Virgin, Necker and Anegada Passages.

The problem of sustaining, not only the fleet, but such scouts, patrol ships and aircraft, required for operating in the Atlantic, the Caribbean and the numerous connecting passages, is easily solved from such a central location.

21. The establishment of a wireless plant will give direct communication with the United States, the Canal Zone and different points in the West Indies. With this excellent position as a base, the activities of reconnaissance ships and seaplanes can be far-reaching and yet continue within radio call.

22. The Canal Zone is thought to be too far distant from the probable scene of naval activities, and the outer lines of strategy, to be considered as an Advanced Base possibility.

23. Summing up then, we have for our eastern base within the United States, the Chesapeake Bay Region, and for the base without the continental limits, Samana Bay. It might be well to add that for summer work such troops and ships, as can be spared, be moved north to the continental base, and during the winter months all work and maneuvers take place at the island base.

24. On the West Coast, the following Naval Stations and Marine Posts are found: Bremerton, Mare Island and San Diego. Due to its extreme northern position, Bremerton can be eliminated as a suitable location for a base.

25. Both Mare Island and San Diego have many individual advantages, but San Diego being about five hundred miles to the south of Mare Island and near the Mexican border, its desirability as a base is greatly increased, when considering the probability of trouble with Mexico, Central America or South America, and the possibility of a hostile force seizing a base on the coast of lower California or western Mexico.

26. Our possessions in the Pacific are widely scattered, so much so in fact, that in case of hostilities, one can be of little more than slight assistance or defense to another. The list of islands includes, the Hawaiian Islands, Midway, Samoa, Guam and the Philippines.

27. As the problem of Advanced Bases, in this sector, deals with great distances, it becomes essential, in an analysis, to give the mileage factor a part of much prominence. The nearest of our transpacific neighbors is approximately 5500 miles distant, so that the vast expanse of intervening water might be thought a protection to our western shores, but it is well not to allow this fact to mislead us into a false sense of security.

28. Our policy should be such as to admit an aggressive offensive, from a well located though distant base, and not confine ourselves to a defensive-offensive action compatible with the selection of an eastern pacific or a continental stronghold.

29. From the foregoing hypothesis, it is found that the Hawaiian Islands are not sufficiently advanced to be the best selection. These islands are ideal for the establishment of an auxiliary base, from which men and supplies can be shipped upon short notice. The climate is especially well adapted towards year-round training of personnel, with many other advantages that are found lacking in higher latitudes.

Midway is unsuitable in every particular.

Samoa is without the probable theatre of operations.

30. Having eliminated all but the Philippine Islands and Guam, the decision between these two must be influenced by the adoption of a successful program of defense and the ability thereunder to hold against an enemy in force, without assistance from any exterior source; in other words, during a state of war the base must be self-sustaining and able to stand against overwhelming numbers.

31. The Philippine Islands have many indentations which, in so far as the water areas and protected anchorages are concerned, would be ideal locations for Advanced Bases, but as these islands are of comparatively great extent, they afford equal advantages to an enemy sufficiently far-sighted to reap the benefits therefrom.

32. Another most important feature is the vulnerability of the sheltered bays and harbors to land attacks. An energetic and wide-awake antagonist could land troops without opposition, and in such numbers as to quickly subdue the base garrison. In addition, he could bring about a concentration of powerful long-range artillery, to cover his attacking forces, and speedily put the defending guns out of action.

33. Because of the foregoing reasons, the Philippines are given a secondary consideration and Guam becomes the site for the permanent base.

34. Guam is about 29 miles long and from 4 to 8 miles wide, with a main harbor on the western side which can be made to take care of the fleet and ships of the train. It lies about 3500 miles west of the Hawaiian Islands, 1200 miles east of the Philippines, 1500 miles south of Japan and 1000 miles north of New Guinea, with the nearest land, Rota Island, 30 miles away. The climate and vegetation are practically the same as the other tropical islands of this locality.

35. The permanent garrison can be stationed, along systematic lines, in groups or units over the entire island, with guns and batteries so placed as to command all the beaches and to sweep their water approaches.

There are many positions where large-caliber, long-range guns can be mounted to prevent any inshore bombardments by naval ships.

A powerful wireless plant can be installed to keep in touch with the outside world.

Submarines can assist in the destruction of enemy warships and transports, with flying units to combat air-raids, and conduct bombing expeditions to the adjacent islands of this group, where bases might be inaugurated by an enemy.

36. The formation of Guam is such that an inner defensive ring of exceptional strength can be constructed, to which the troops holding the outer defenses could retire in case of an effective landing by hostile forces.

37. A summary of the Pacific sector shows San Diego as the continental selection, the Hawaiian Islands as an auxiliary base, and Guam as our Rock of Gibraltar.


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WINDWARD PASSAGE
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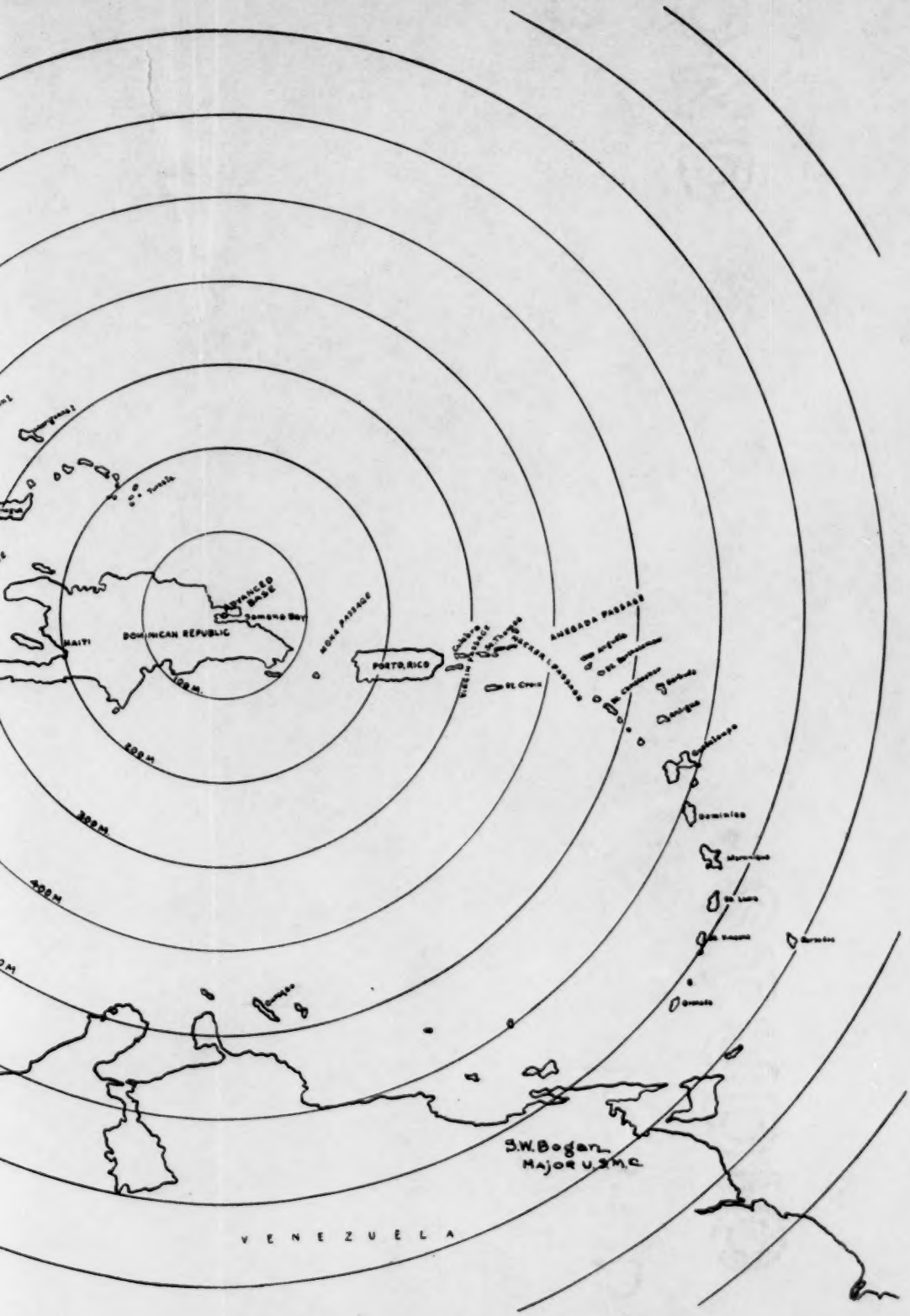
500M
600M
700M
800M
900M
1000M
PANAMA
COLOMBIA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DOMINICAN REPUBLIC
HAITI
MONA PASSAGE
PORTO RICO
ANEGADA PASSAGE
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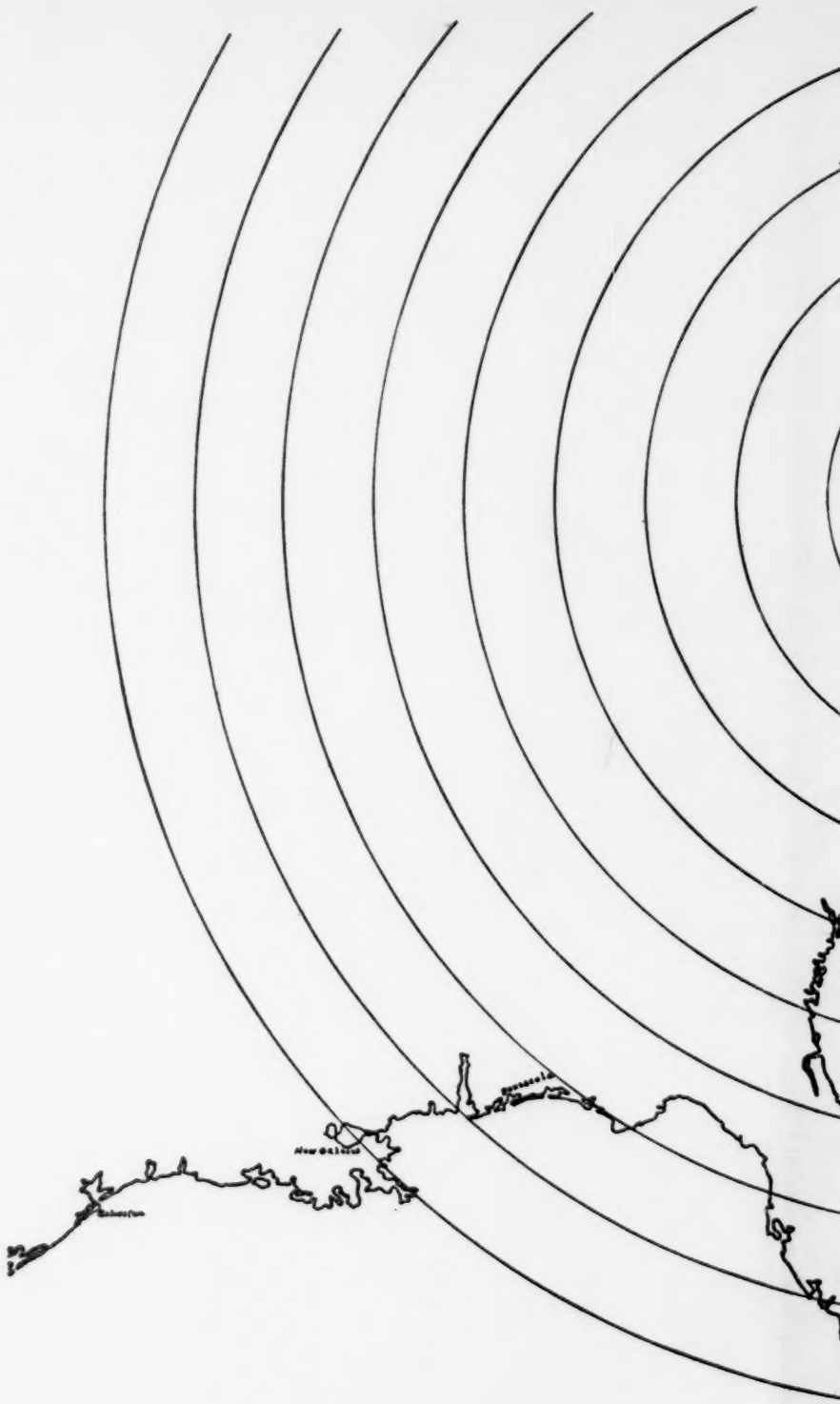
202 M
302 M
402 M
S.W. Bogan
Major U.S.M.C.
VENEZUELA



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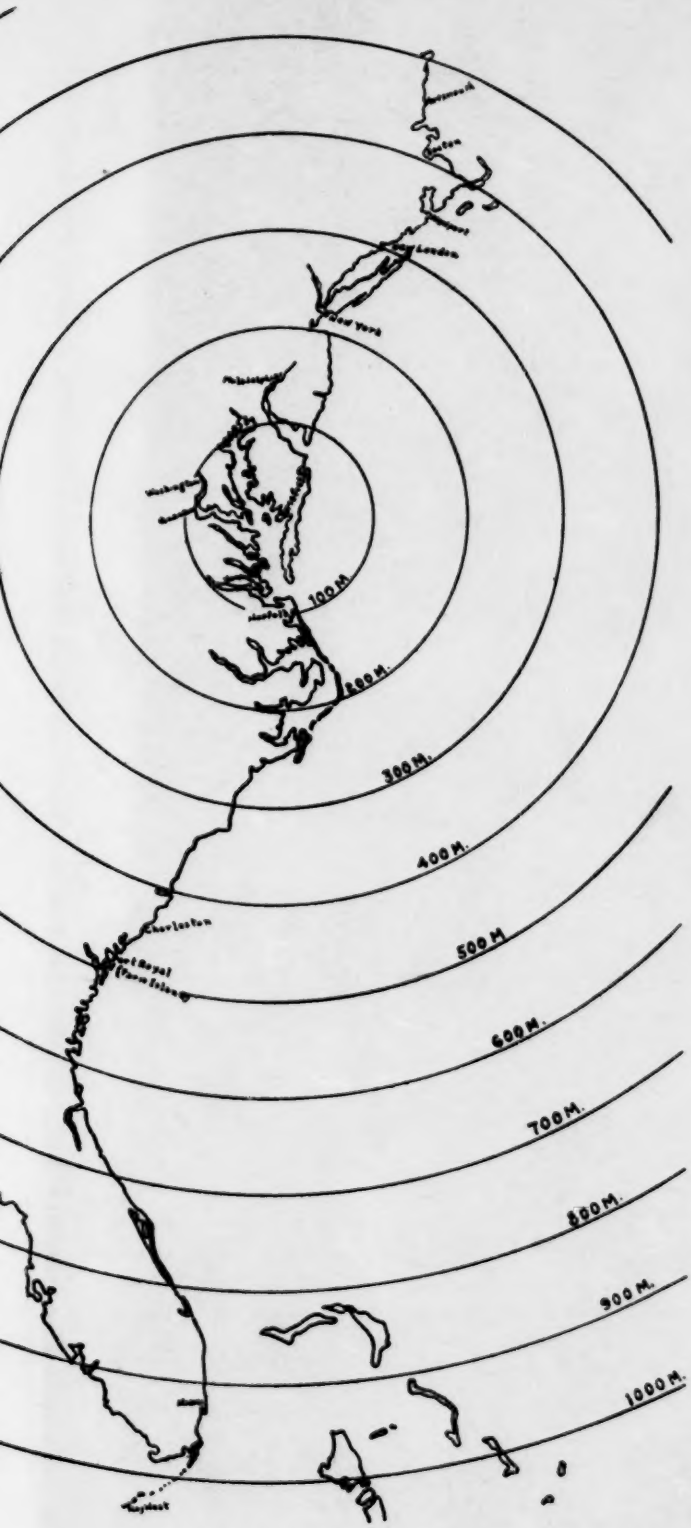
Major, U.S.M.C.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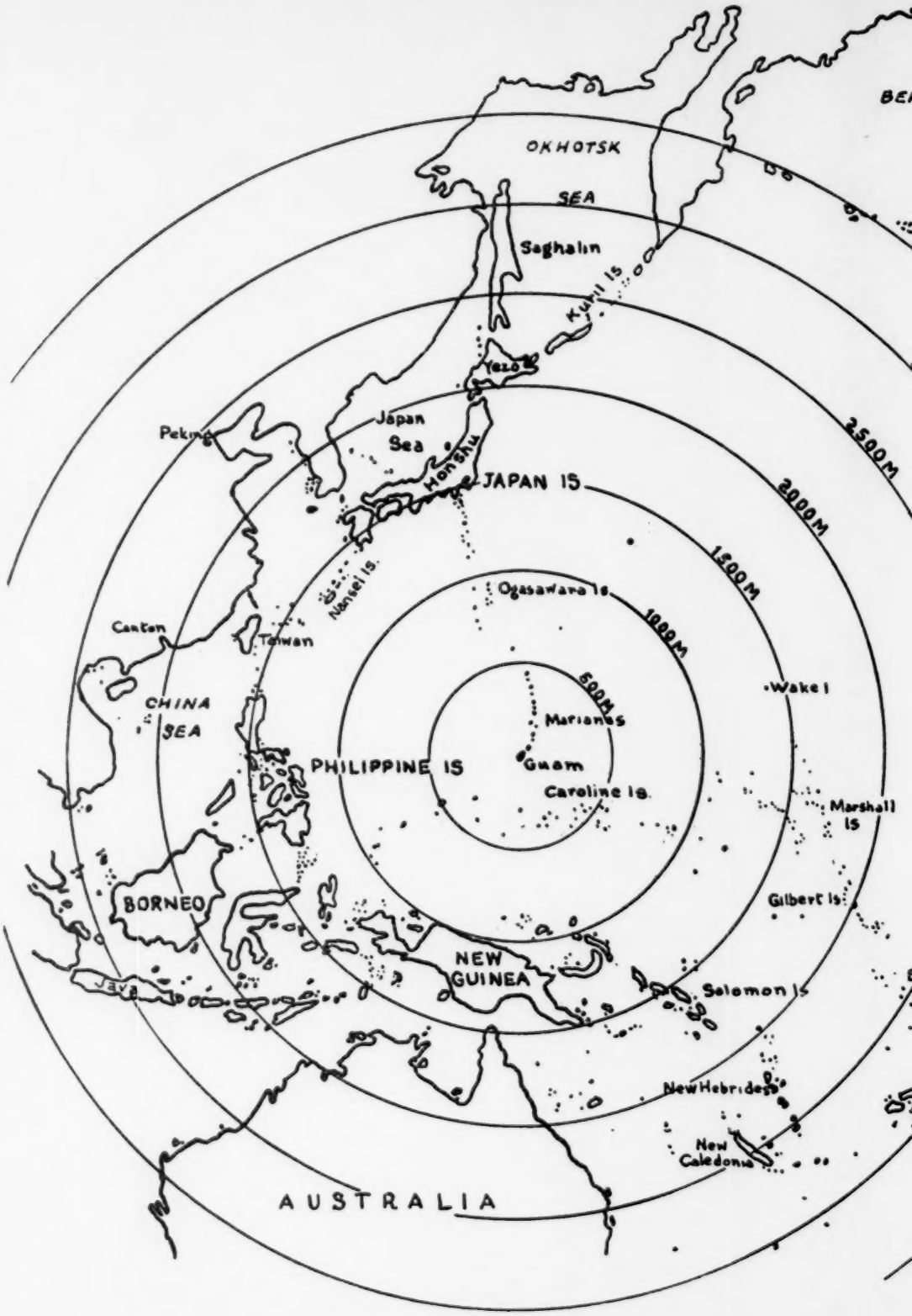
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Kuril Is.
Yezo
Peking
Japan
Sea
Honshu
JAPAN IS
Nansei Is.
Ogasawara Is
Canton
Taiwan
CHINA
SEA
PHILIPPINE IS
Marianas
Guam
Caroline Is.
Wake I
Marshall Is
Gilbert Is.
BORNEO
NEW
GUINEA
Solomon Is
New Hebrides
New Caledonia
AUSTRALIA
500M
1000M
1500M
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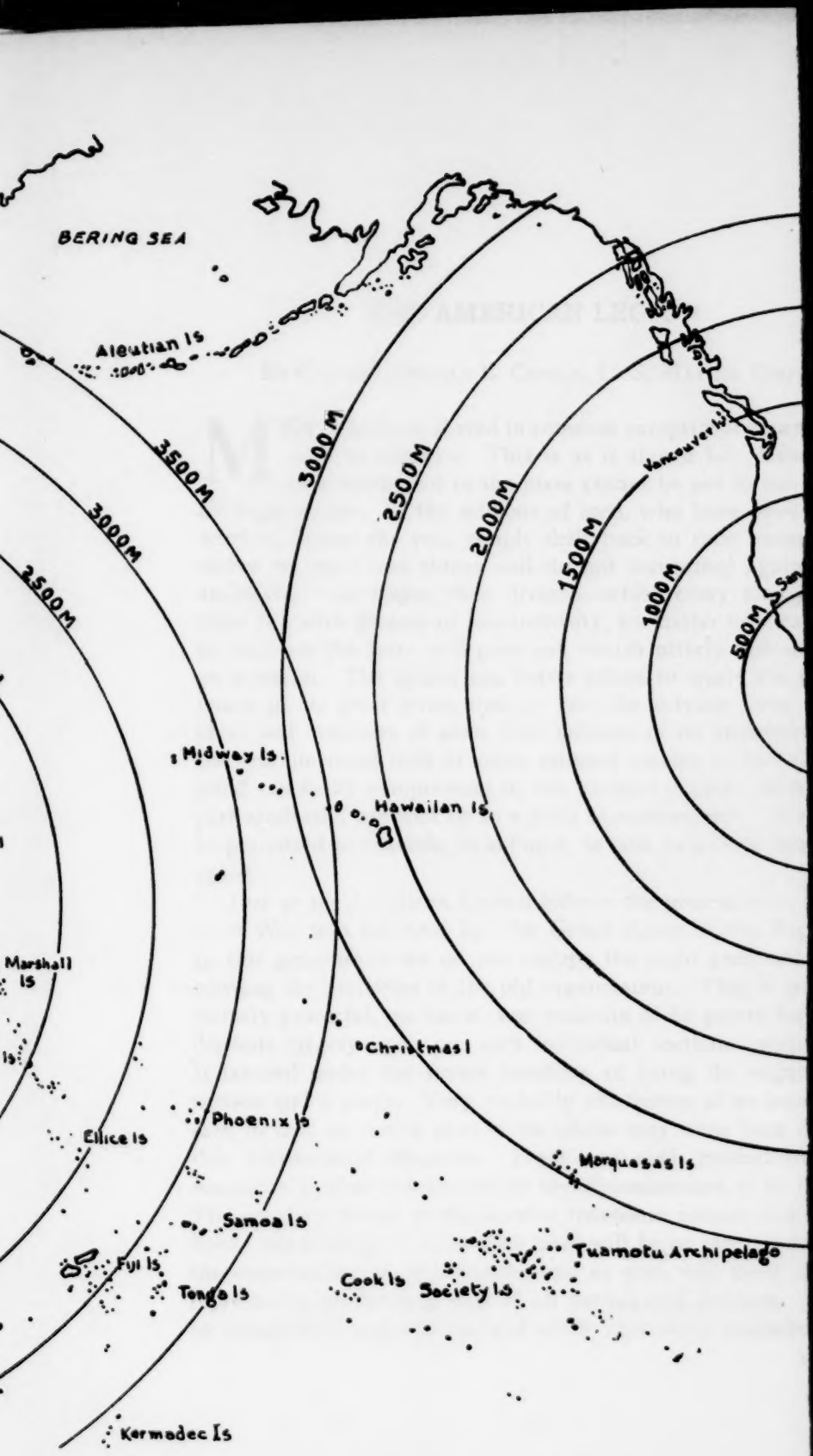
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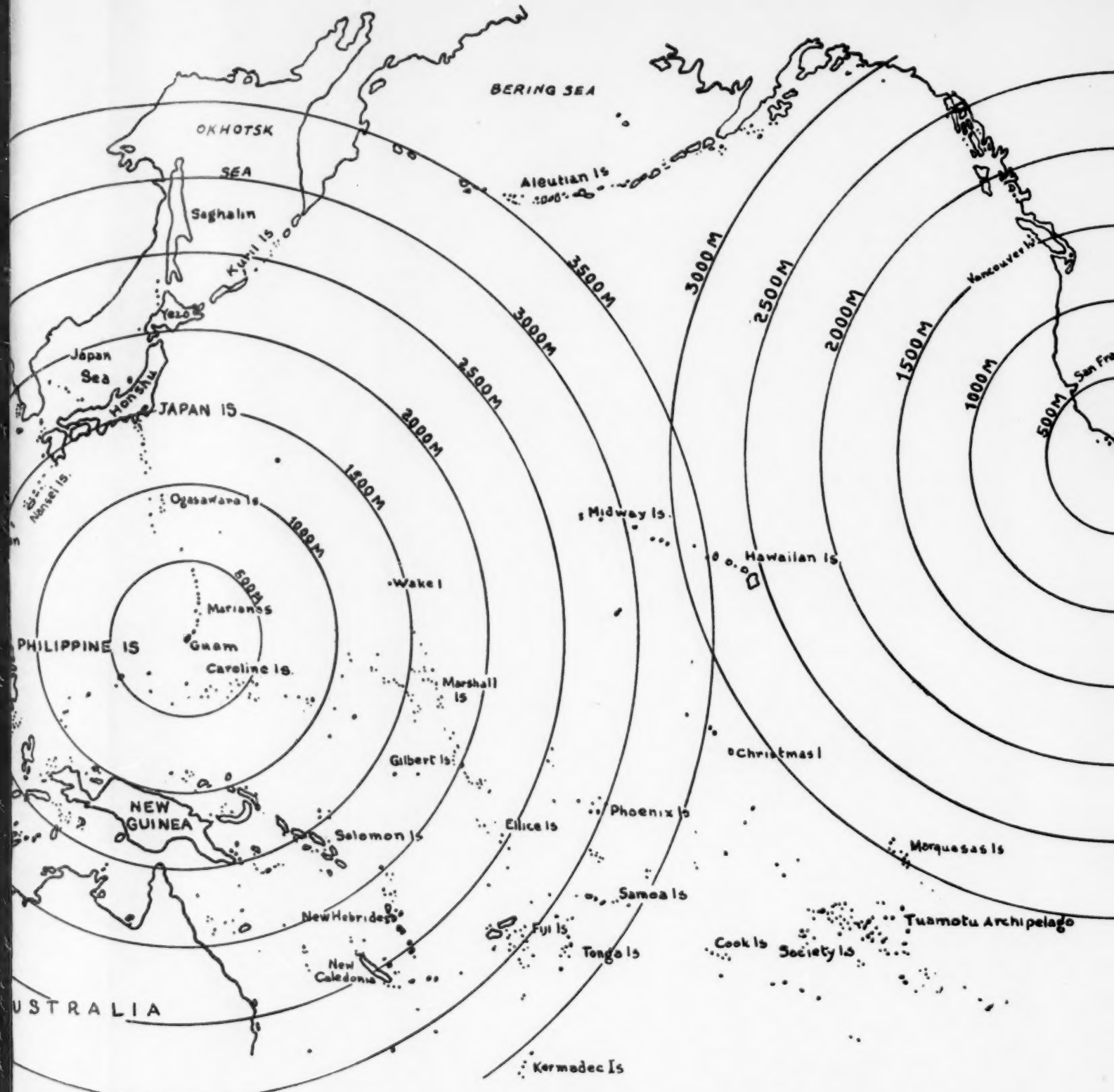
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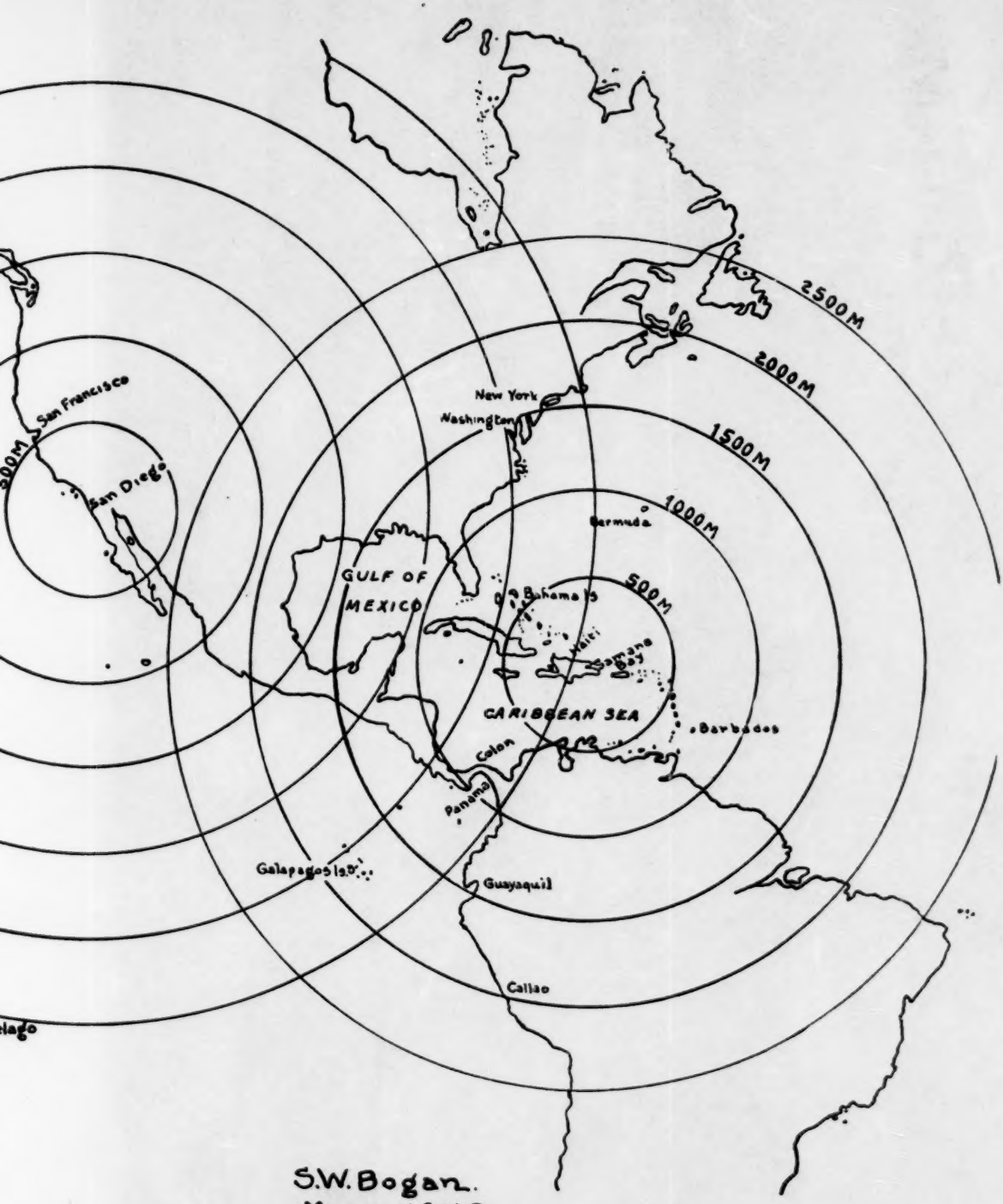


S.W. Bogan.
MAJOR, U.S.M.C.

THE AMERICAN LEGION

By Captain Donald B. Creecy, U. S. Marine Corps

MEN, who have shared in common exceptional experiences, tend to organize. This is as it should be. Experience is wisdom, and in the mass cannot be put to use except by organization. If the millions of men, who have been in the services during the war, simply drift back to their accustomed niches by twos and threes and do not foregather again, their ambitions, their hopes, their dreams—which every man jack of them has with greater or less intensity, no matter how carefully he conceals the fact—will pass and vanish utterly like shadows on a screen. The nation can better afford to waste the motive power of its great rivers than to lose the driving force of the ideas and emotions of some four millions of its strongest men. All this enormous bulk of vigor, aroused energy, so vast that no mind can really comprehend it, has perhaps crudely, perhaps in part aimlessly, towered up to a peak of achievement. It cannot be permitted to crumble, to collapse, to sink to a Dead Sea level again.

Just as the American Legion follows the present war, so the Civil War was followed by The Grand Army of the Republic. In this generation, we do not occupy the right perspective for viewing the activities of the old organization. That it was extremely powerful, we know: our estimate of its power for good depends largely upon our own individual sectional prejudices. It labored under the severe handicap of being the organ of a section and a party. Very probably the failure of so many big men to take an active part in its affairs may have been due to this fundamental dilemma. From any such misfortune, the American Legion is delivered by the circumstances of its origin. The common bonds of the service transcend section and party lines. An attempt to draw such lines will be an attempt to split the organization up the middle, and as such will meet instant repudiation by thinking men of all parties and sections. Thus, by virtue of its non-partisan and wholly American character and

its much more numerous and comprehensive personnel, the American Legion has before it a power, and a power for good, infinitely greater than that owned by the Grand Army of the Republic.

That this organization must come has been an accepted fact ever since the war got under way. The conviction strengthened as the participation of America grew by leaps and bounds to the final consummation. With the major facts on the table before us for survey, it is perfectly obvious that an event has occurred comparable in the grandeur of its effect upon men's minds to the era of discovery that ushered in modern times. The Old World then discovered the New: now the New World has discovered the Old. The immense leap of America to preponderating power in the world, the surging impact of nations that had been shadowy names—and unpronounceable ones at that—the intimate contact of some two million Americans with European manners and habits at a time of explosive unrest: all this and much more means a total over-turn of American thought, a stir and turmoil of new forces within the nation. In such times, the organization of the men, who have been in closest touch with the new, stirring factors, becomes a pressing necessity if possible national perils are to be averted and probable national opportunities taken.

The American Legion is not a dream, a possibility, or a probability: it is a fact. The Paris Caucus, representing all units of the A. E. F., met in March, and the St. Louis Convention, called by that caucus and representing insofar as possible all units at home and abroad, has just finished its session. The adoption of a temporary constitution opens the way for formation of local organizations, where the real power will rest, in every State of the Union. The membership includes all who have seen honorable service during the war, whatever their place or time of service, their rank, grade or unit. And all vote equally. This latter provision, an eminently just and proper one, places the fate of the organization in the hands of the enlisted personnel. It is every officer's duty and responsibility to assist the ablest and most intelligent enlisted men in attaining leadership, to support the organization with all his influential connections, and to see that broad, sound plans of action are properly presented.

First among the avowed objects of the Legion is the perpetuation of an intense patriotism. Heroics are not very popular in the service. Subordination does not encourage Nathan Hale

speeches in barracks, nor does the American sense of humor. But the under-current is there, ready to flame up into vigorous action as shown in many instances, among them the May Day assault by some 1000 enlisted men upon the Socialist meeting at Madison Square Garden. We may safely believe that the average American soldier, sailor or marine, although not very vocal on the subject, feels at heart the true spirit of Americanism more keenly by virtue of the fact that he has worn the uniform. This being true, it means a great deal to have firmly organized these men who think alike and think right on the issue of America and American institutions first, last and all the time.

Naturally, the future military establishment interests the Marine Corps vitally. Heretofore, we have had a peace-time condition, whereby military affairs were shaped primarily by civilians who had never been anything else. Any professional soldier, who placed before the public the results of his life work, was immediately attacked as " a paid expert " and knocked galley-west. Discharged officers and men cannot suffer under this reproach. It is safe to say that the future military policy of the country rests in large measure with the civilians who have seen military service during the last two years. This ought to be realized distinctly by the men whose lives are in the service. They should help in every possible way an organization, which will be composed of " friendly Indians," so that it may evolve into a powerful organ qualified to speak powerfully on military affairs. In this one and only way the country may be prevented from relapsing into the slough of despond of military defenselessness.

The Legion will promote friendship, comradeship. From day to day, life becomes more complicated, vaster, a maelstrom. The attempt to reach out, to know people intimately, to speak the normal accents of friendship is more and more like talking in a gale. The great, outstanding pleasure of the service is daily association with the host of good fellows whom we all know. Every civilian, who has come into the service must have felt this like a breath of fresh air out of a fair sky. To carry this same sentiment back into civil life must react beneficially in favor of national prosperity and happiness. If each of us goes back to his individual grindstone every day and his particular block of

bricks and mortar every night, the old friendships perish. They can only be kept alive by organization, by constant association, by common meeting-places.

The reference to meeting places brings up a question pressing for immediate solution all over the country. In different stages, projects for war memorials are advancing in every state. In Maryland we have proposals for avenues of trees, state highways, Napoleonic arches, and bridges across the bay. The same conditions exist elsewhere. Everyone has his particular little fish to fry to his own taste or interest. Apparently everybody is consulted, except the men most interested. The most casual thought discloses that the only memorial for which service men can care a rap, is a building in each of the large cities where they may gather to sound off about the past and plan for the future. To turn the memorial agitation into this channel is of extreme importance to the new organization. This is also an illustration of one of many matters, which may go by default for want of an authoritative organ through which service men may speak.

The possible public activities of the American Legion, are without limit except the salutary limit of its non-partisan character. It is not necessary to hunt up measures of doubtful wisdom or expediency: the woods are full of projects, agreed upon by all practical, intelligent men, but blocked by inertia, stagnation, absence of organized driving power. A good illustration is the Lane Bill for the reclamation of waste lands and the establishment of discharged men. The national budget system is another. The railroad reorganization, the shipping program do not forge ahead as they would with organized opinion driving. The way of practical improvement is wide open in State and municipal affairs. In any big city, you can find off hand a hundred men, who can each put his hand on a half dozen important improvements, about which there is really no legitimate argument but which lack for their accomplishment the one necessary factor of public support. If the intelligent, educated element of the services will get into the organization, control it, and exhibit some real public spirit, it can furnish the precise force needed in city, state and national affairs.

The present day belongs to the average man: the future will be his more securely. The preponderant power is the labor

union. Anyone who does not like this can, of course, continue to dislike it, but he cannot change the facts. Insofar as the changed situation means better standards of living, better homes, food and clothing, broader opportunities for rational happiness, it is good, distinctly and undeniably good. But the real and immediate danger is an accompaniment of class prejudice, class hatred, the triumph of ignorance over education, and the destructon of all the fine fibers of our civilization. Many ideas, advanced as the way to combat this, may be excellent but are uninteresting. There is just one primary way and that is the thorough education of the average man in the fundamentals of citizenship. Each intelligent, educated man has got to get down among the ignorant, and try to give them the benefit of what he knows honestly, quietly, without condescension, at the same time learning himself. With an organization, you can work if you want to: without one, you are helpless, bound hand and foot in a hopeless inefficiency.

Every officer of the Corps, every intelligent, educated enlisted man must figure out his personal responsibility on this. The well-known inclination of Marines to stick together will make it simple for them to organize in every city of considerable size and to form an active, influential part of the state organizations of the American Legion. The various recruiting offices can furnish the necessary information and be used as an organizing center for this activity which means so much to the Corps, the whole military establishment, and the nation. We have every right to consider the Marine enlisted personnel the cream of all the services and that, as such, they will maintain in post-war activities, the same splendid example of patriotism and courage that they showed from their first jump off in the war.

PEACE-TIME MORALE

By Major Earl H. Jenkins, U. S. Marine Corps

IN discussing the subject of Morale I have kept in mind the viewpoint of the Company Commander, as he is the one most involved and is the highest ranking officer who deals directly with the enlisted man. As the Company Commander, also, has two grades of officers and all grades of enlisted men under his command it is believed that the principles here laid down will apply equally to the higher and lower commands, leaving the details of application, however, to their own deductions.

"The object of peace-time training is preparation for war."—I. D. R.

"Of all the elements that go to make up battle efficiency,
Morale constitutes seventy-five per cent."—Napoleon.

Morale is the mutual feeling within an organization for every part of, and the whole of, the organization. If this feeling is one of animosity, of dissatisfaction, you have poor Morale; if it is one of sacrifice to the organization you have good Morale. The best Morale exists when the component parts of an organization have such a mutual confidence and pride in one another and in their organization that they believe it to be the finest one in the service. It makes men willing to bear any hardship and to make any sacrifice for their organization. It is the chief factor in good discipline, for, without it, loyalty could not exist, and all discipline would vanish at the time it was most needed.

The subject of Morale divides itself into two general subdivisions, "Peace-time Morale" and "War-time Morale." It is to the former that this article pertains. These two divisions are, in principles, the same but differ considerably in the means of attainment. Just as war-time maneuvers are based on, and the success of them determined by, peace-time maneuvers, so is war-time Morale determined by peace-time Morale, the degree of perfection of the former being based on the thoroughness of training in the latter and the results obtained.

(U. S. A. Signal Corps Photo)

CORP. LELAND K. PEYTON, 5th MARINES

Winner of the rifle championship of the American Expeditionary Forces receiving the congratulations of Brigadier General William E. Welsh, director of the competition, which was held on the d'Auvours range, near Le Mans, France. With a score of 550 out of 600 possible, Corp. Peyton beat out more than 1300 marksmen selected from every unit and every service in the A. E. F in his first appearance in a competition. He is 22 years old and lives in South Pasadena, Cal. He joined the Marine Corps in May 1917 and came to France a year later. He fought at St. Mihiel, in Champaigne and the Argonne.

The development of a high Morale is based on certain principles, a great many of which are made difficult to apply by the exigencies of campaign. War-time Morale consists in applying, at every opportunity, the principles learned in peace and on the initiative and quick judgment of the leader. This latter factor is not demanded by peace-time conditions and we are, therefore, able to study carefully the subject, determine the principles and work them out undisturbed. Having laid down the principles governing good Morale the next step is the application of these principles to particular groups of men under varying conditions.

The principles of good Morale are:

1. Respect.
2. Confidence.
3. Contentment.
4. Harmony.
5. Pride.

RESPECT

Respect for seniors and, above all, your Commander, is, indisputably, the prime requisite for good Morale or discipline. The commander, be he Corporal or General, must demand the respect of his subordinates by means of his own deportment. It is manifestly true that if the subordinates lack respect for their Commander there is little or no possibility for an efficient command. He can accomplish this best and most effectively by possessing an intimate knowledge of the duties incumbent upon his office. There is a distinction between Respect and Confidence in that by practical application of the theories of the former is the latter obtained.

CONFIDENCE

Respect for seniors leads directly to Confidence in them. Respect does not become an important element in Morale until it does include Confidence. Deference to superiors, produced through fear of punishment, is a cheap form of respect and soon breaks down. But deference arising from esteem is the truest and noblest form of respect, for in this kind we find abundant Confidence and a foundation for a lasting Morale. To gain this Confidence of your men it is generally necessary to create your own opportunities, and it may be promoted by such things as outmaneuvering another company in a competitive exercise or other tactical operation. Unusual opportunities are the best, wherein the commander displays cool judgment and self control in an

emergency. This gives the commander his opportunity, for by it, he, by his real ability, demands Confidence. Guarding the interest of your men and seeing that they are given every privilege consistent with good discipline also greatly assists in maintaining Confidence.

CONTENTMENT

This is the first substantial step toward wilful obedience—the zenith of good discipline. It bears indirectly on respect and depends mostly on the personality of, and the knowledge of human nature possessed by the commander. When Contentment manifests itself the commander begins to show pride in his organization. With the absence of Contentment Morale is nil and discipline is built on sand. The first ambition of every company commander should be to have a contented command. This he endeavors to do by means of his personality and resourcefulness. Contentment hinges on satisfaction, which in turn, demands comfort, recreation, and a belief by the men themselves that they get a " square deal " in everything.

Their quarters must be made as attractive and comfortable as practicable; reading rooms should be prepared and in a location convenient to the men—in the barracks if possible. Entertainments in the form of motion pictures, vaudeville sketches, boxing bouts, etc., should be given each evening. The mess must be given every attention; the purchase and preparation of food carefully supervised; the mess-hall itself should be made as attractive as can be by exterior and interior decorations; a lawn with flowers could be made outside and flower baskets suspended inside. The details of the mess should be left to the mess officer, who should strive to make his mess the best one in the post. Too much attention cannot be attached to the mess. Athletics should be encouraged to the utmost—baseball, football, basketball and other teams should be selected and kept in practice.

The administration of punishments and granting of privileges bears directly on Contentment. Every opportunity should be taken to grant privileges and great care exercised in the administering of punishments. Punishments should be appropriate to the offenses committed and punishments adjudged in consideration of the disciplinary effect on the individual and the moral effect of same on the rest of the command.

Under the heading of Contentment comes also the ability of

the captain to handle individual men under peculiar circumstances. There is scarcely a company which does not have its share of undesirables, who tend to destroy the Morale of the company. No definite rules can be given which, if followed, will correct this type of man. Each case is a problem in itself and requires an intimate knowledge of the man's disposition to handle properly, and even then it is not always successful. It must be borne in mind, though, that there are very few men who have no good points and something in which to appeal. Two cases have come under my observation and are interesting. The first case is that of a man who, from the day he joined the company, caused trouble by drunkenness and almost invariably ended in a fight or other disturbance. In garrison, when sober, this man was an excellent soldier and his captain learned that he never drank when on duty. From observations of this man and questioning his squad-leader and other non-commissioned officers who were acquainted with him, his captain reached certain conclusions and decided upon a plan of action. He sent for the man and told him that he was going to make him a corporal and that he knew he could make good. His captain appealed to his pride as best he could and dismissed him. He made him a corporal and, three months later advanced him to sergeant. He turned out to be an excellent non-commissioned officer and, needless to say, caused his captain no more trouble. This is a case of responsibility making the man and can be used with effect in many cases, although it is a very sensitive procedure and should be followed with caution. It must not be undertaken solely as a corrective measure; the man must have the military qualities required by his new rank and position. The employment of this method has the disadvantage, seemingly a serious one, of apparently rewarding bad conduct. It is believed, however, that this disadvantage becomes immaterial in consideration of its following analysis:

1. Discouraging effect upon men with good conduct.
2. Encouraging effect upon men with bad conduct.

Under (1) we must realize that men of good conduct are, as a rule, men of superior intelligence and ambition to the men with bad records and hence are more capable of seeing both sides of the case at issue. They more readily see, and will probably admit, that the man so promoted possessed unusual qualities of leadership and command and will therefore be reconciled. If

such is the case, as it appears to be, then the result is not injurious to your Morale.

Under (2) we have the encouraging effect upon men with bad records, in addition to the corrective benefits to the man himself. The moral effect of this is considerable and an improvement will probably be observed in the conduct of some other bad characters, which, although only temporary, will heighten Morale and perhaps give you a keener insight into the capabilities, tendencies and natures of other like characters.

The other case in point is that of a young chap nineteen years old. He was a chronic "kicker," always frowning—never smiling, and everybody "had it in for him." He did not appear amenable to discipline. While censoring the mail one day, Captain A, his company commander, came across a letter from this chap to his mother. In it he told her that he was thoroughly dissatisfied, that his associates and non-commissioned officers were not trustworthy, that you had to surrender all pride and do anything anyone told you to do whether it was right or not, etc. Captain A laid the letter aside and wrote a letter to his mother himself, in which he told her how well her son was doing, how proud she must be to have such a son, etc. After completing his letter Captain A called the man in and read to him the letter he had written to his mother and told the man that he was ashamed to send the one he wrote and was going to throw it in the waste basket. Then, after impressing upon him how much better his letter would make his mother feel he looked at him for a reply. He merely said, "Yes, Sir, that's a lot better." Captain A then tried to convince him that the officers and non-commissioned officers were not against him but were working for his own welfare, and dismissed him. "This man," said Captain A, "gave me comparatively no more trouble, and I received several letters of appreciation from his mother."

I cite these as instances where you can change a man's whole life by a few carefully selected words or acts and a knowledge of his character.

HARMONY

You have now a group of men, contented and entertaining respect for their commander. The next step is organization, co-operation—Harmony. Harmony means the adaptation of each and every sub-unit to the other sub-units and to the whole. It

means that your squads, half-platoons and platoons have the same interests at heart and strive toward the same end—a perfect organization. The accomplishment of this devolves upon the commander, his organizing ability and care in assigning duty to his subordinates. The mess officer must be chosen with scrupulous regard to the relative abilities and tendencies of his officers. An amusement officer should be detailed and the general duties of his office be made definite. The amusement officer should be popular with the men, energetic, and have, preferably, athletic or musical abilities.

Another suggestion to promote Harmony is to have a Non-Commissioned Officers' Council, which will consist of all the non-commissioned officers of the company with the first sergeant as its president. This council should meet twice a month or at the call of its president. Its duties shall be to suggest improvements or anything to promote efficiency in the company. The proceedings of the council should be kept by a designated non-commissioned officer and submitted to the first sergeant at the close of each meeting. The first sergeant then takes the matter up with the company commander, who may act according to his own judgment or bring the matter up before the Company Council. It is believed that in this way details of administration will be brought before the company commander which would otherwise have escaped his notice. It will also create a feeling in the men that they have a " voice in the government."

PRIDE

A powerful factor. By properly appealing to the Pride of an individual results can often be obtained more effectively than by severe punishments, and used in the same instances. By properly appealing to the Pride of a company they can be made to go anywhere, endure anything and sacrifice all. By properly appealing to the Pride of a nation, one hundred million people can be made to rise in arms; as did the United States when our Pride was aroused by Germany's boasts. Indeed, to arouse Pride in an organization is worth every energy that can be expended toward its achievement. Means whereby Pride is instilled in an organization is principally by success in competitions with other organizations. Success of an organization in anything undertaken assists in the development of Pride in that organization. Athletic

contests invariably stir up rivalry and keen competition and are, hence, an incentive to Pride. Pride promotes harmony to a large extent, each individual or group aiding other individuals and groups for the benefit of the whole.

The application of the above principles of Morale will have an effect commensurate with the thoroughness of application, and the result depends upon many considerations, the more important of which are: Personality of leader; personality of subordinates; appropriateness of methods of application to the specific case involved; type of men in command; facilities for recreation, and class of discipline in practice at the post. The company commander must realize that no iron-clad rules can be laid down which are sure paths to a high Morale, but on the contrary, mere general principles are all that can be used; the development and application of these principles being his urgent duty. Much will depend upon the interest and work he puts into the matter. "The study of man is man," surely no one has better opportunities to realize this maxim than the company commander; and there exists no feeling more glorious than that of knowing that your company—your men—are ready and willing to go where you bid, to do anything you say and to give everything they have for their captain.

THE UKRAINE *

By O. DeL.

"IT will be the end of Russia, not indeed by any means as a great Power, but as an European danger, if the Ukraine ever secedes from the Empire. . . . It matters comparatively little to Russia, if she loses Poland, and even Finland. But without the Ukraine Russia becomes an Asiatic Power."—Bedwin Sands, "The Ukraine." London, 1914.

When the collapse of the Tsar's Government in 1917 brought the National movements of the subject peoples suddenly to the surface, the Ukrainians were not, like the Poles or the Finns, inspired by the recollection of an independence recently enjoyed. For more than two and a half centuries they had been ruled by the Tsar. Before that they had been under the Polish yoke. Those means of Russification which, imposed at the beginning of the twentieth century, were so bitterly resented in Finland, had been introduced without protest in Ukraine at the end of the eighteenth century. And when under the influence of the nineteenth century nationalism a Ukrainian movement made its first appearance, it had been immediately suppressed by the Russian Government. From 1876 to 1905 (though not without mitigations from time to time in practice), and again from 1914 to 1917 it was forbidden to publish a book, or to import a book, or to produce a play, or to deliver a lecture, or to preach a sermon, in the Ukrainian language. All education from the village school to the university was in Russian. A large part, perhaps the majority, of the educated classes rarely spoke a word of Ukrainian except to servants or peasants. The higher strata of society, the functionaries, the military, the nobility, the superior clergy, were almost entirely denationalized. So to a great extent were the lower strata in the towns. And even in the villages, where the Ukrainian language was universal, the so-called "village aristocracy," time-expired non-commissioned officers, village officials and former town workers come back to their Communes, con-

* From *The Edinburgh Review*, by permission of the Leonard Scott Publishing Company.

stituted a more or less Russianized element. The majority of peasants understood a Russian speaker—when they wished to—well enough: for though many never went to school, and more forgot what they learnt in the two years of schooling which was all that most peasants got, yet most learnt again what they had forgotten during their service in the army.

Perhaps the most striking evidence of the immaturity of the Ukrainian movement in Russia is the fact that in the year 1905, when all the non-Russian nations were in clamorous revolt, scarcely a voice was raised in the Ukraine in favor of separation. The chief news that reached the world from the Ukraine was of *pogroms* organized by the ultra-Russian patriots in the Ukrainian towns of Kiev, Kishinev, and Odessa. There was a Ukrainian Club of some forty members in the First and Second Dumas. But from the Third and Fourth Dumas under Stolypin's manipulation of the franchise they had all disappeared: and at the outbreak of the war the Ukrainian Nationalists had not a single representative either in the Duma or in any one of the Ukrainian *zemstva*. So effectually, it seemed, had the Pan-Slav influences which dominated Russian policy in the decade before the war succeeded in the crushing of the Ukrainian movement.

Perhaps they would have succeeded altogether—for the factors in their favor, as has been indicated, were many—but for the fragment of the Ukrainian race, three million only out of thirty million, who live on Austrian soil. Here they are called Ruthenes: they inhabit the eastern parts of Galicia, of which province they constitute slightly less than one-half the population, and are under the yoke of the Polish majority, to whose mercies Vienna handed them over when she made her peace with the Poles after the disasters of 1866. It may be said at once that there is no group, or fraction of a group, of Ruthenes, which does not cherish for the Poles a hatred so fierce that by the side of it the bitterest protest of the Russian Ukrainians against Russian rule appears tame and insignificant. At a word from Vienna the peasants would be any day ready to bring in cartloads of the heads of the Polish landlords, as they did in the Galician rising in 1846; and the *intelligentsia* would organize pilgrimages to the houses of the murderers, as they did when Miroslav Siczynsky murdered the Polish governor of Galicia in 1908. But neither peasants nor *intelligentsia* get the

opportunity; for no one has ever charged the Poles with weakness in their rule of subject races.

Nevertheless, though held in bondage themselves in Galicia, the Ruthenes have provided a kind of "intellectual Piedmont" for the Ukrainian movement. The books, which were not allowed to be published in Russia, were published in Lemberg and Czernowitz and smuggled across the border; exiles from Russian Ukraine found a home in Galicia; and the history of the Ukrainian movement down to 1914 is to all intents and purposes the history of the Ruthenes. Yet the Ruthenes are cut off from the Russian Ukraines, not only by the political barrier, but by one of those barriers which in this part of Eastern Europe count for more than political boundaries, a difference of faith. The Russian Ukrainians are Orthodox, members of the Russian Church. The Ruthenes are Uniates, Catholics in communion with Rome but retaining the Greek rite and the married clergy. The Ruthene peasant is passionately attached to his rite, and very much more afraid of Latinization on the part of the Poles than of proselytizing efforts on the part of Orthodox Russia. "Purifying the Greek rite" (by which is meant the elimination of organs, vernacular hymns, and the more modern Catholic devotions, such as the Sacred Heart or even the Immaculate Conception) has always been a good political cry in East Galicia, especially among the Russophil elements: and in the hands of agitators from Russia has more than once been the prelude to whole villages going over to Orthodoxy.

One of the outstanding personalities of Eastern Europe is the Uniate Metropolitan, Mgr. Count Szeptycki. He is a Pole by birth, or rather he is a member of one of those aristocratic families which bear Ruthene names, but which were all Polonized centuries ago. A Szeptycki was Archbishop of Lemberg at the end of the eighteenth century; but the present Metropolitan, Andrew Szeptycki, is the first of his name, and indeed, the first of his caste, to acknowledge Ruthene nationality. He occupies a unique position in the National movement, and his place, when he dies, will be difficult to fill. Physically he is something of a Hercules, well over six feet high, with a big, fair beard, and with a certain air of command, in which the Polish aristocrat and the Prince of the church are curiously commingled. He dominates almost without question an anything but docile *intelligentsia*. There is a

strong vein of anti-clericalism in the *intelligentsia;* and again and again the clergy have chafed under anti-clerical diatribes of the Nationalist newspapers, and the diplomacy of the Archbishop has had to be put in motion behind the scenes. But by one means or another he has succeeded in shepherding into one fold the bulk of the clergy on the one hand, and the principal groups of the *intelligentsia,* the so-called " Consolidation," on the other. This union has powerfully promoted the progress of the Nationalist movement. In the 'nineties the Nationalists managed to exclude the Russophils altogether both from the Austrian Reichstrat and from the Galician Diet. In recent years the Russophils, supported by the Poles, regained a little ground. At the outset of the war they held two seats in the Reichstrat to the Nationalists' twenty-three. Between them the Nationalists and Russophils poll all the Ruthene votes; for in the almost complete absence of a Ruthene urban proletariat Socialism is weak in Eastern Galicia, and does not play a prominent rôle.

There was a time when the Russophils—then known as Old Ruthenes—were supported by the Austrian Government as a useful Conservative body, well adapted to form a counter-poise to the Poles. Russophilism in those days was more literary than political, and Russian agents from Russia played little part in it. It decayed with the rise of Nationalism, and Vienna transferred its favors to the Nationalists. In the twentieth century Pan-Slavism, then at the flood in Russia, began to cast its foam across the Austrian border; and a vigorous politico-ecclesiastical propaganda under a Russian Pan-Slavist, Count Vladimir Bobrinsky, was set on foot. To this propaganda the Russophils, or a good part of them, rallied. The propaganda was avowedly irredentist in character; the Mission of Sovereign Russia (*Gosudarstvennaya Rusj*) to Russia in Bondage (*Poydaromnaya Rusj*) was openly preached; and conversion to Orthodoxy was to be the first step. The Orthodox seminaries of Volhynia and Podolia opened their doors to the sons of the Ruthene clergy; and pilgrimages were organized on a large scale to Poczayev, a well-known Orthodox convent, just across the Russian border, which has a miracle-working saint, and has for long served as a convenient center of Orthodox propaganda. For more sophisticated souls newspapers were founded and, above all, educational facilities were created to enable young Ruthenes to make their studies in Russia.

The Poles, who had long been alarmed at the growth of the Nationalist movement, now decided to join hands with the New Russophilism. The new movement was particularly welcome as a means of combating Ruthene aspirations at this time; for the domination of the Poles in Galicia was to some extent threatened by the introduction of universal suffrage in Austria: and a prominent Polish magnate opined that "a little schism in East Galicia would do no harm." The Russian leaders of the Russophils were approached accordingly through the leader of the Polish Club in the Duma, M. Roman Dmowski. M. Dmowski had no difficulty in getting into touch with Count Bobrinsky, and an arrangement was made between the two. In return for a free hand to the Russophils in East Galicia, Bobrinsky was to use his influence at Petrograd to secure certain concessions to the Poles in Russian Poland. One feature of the agreement was an arrangement by which the Polish landlords, who under the iniquitous system of church patronage prevailing hold many of the Uniate livings in East Galicia, should be induced only to appoint Russophil incumbents. The Dmowski-Bobrinsky understanding lasted down to the war.

In the early part of 1914 certain Russophil journalists were put on their trial by the Austrian Government at Lemberg on a charge of high treason. A Polish jury acquitted them and they were laden with flowers on leaving the court. A similar trial took place at the same time in connection with propaganda in one of the two or three Ruthene districts in Hungary. At the Hungarian trial a good deal of peasant evidence was taken. It is interesting reading; for there is nothing so difficult as to discover what the peasants really think of those who speak in their name. The great feature of the Russian propaganda in this case, it appeared, was a wonderful magnifying-glass, through which a certain Father Kabalyuk, a missionary of Orthodoxy, showed the peasants pictures of saints. Other witnesses gave as their reason for following Father Kabalyuk's teaching that "he prayed in such a beautiful voice." There was no evidence to show that the peasants had any inkling of political drift in the priest's propaganda, and very little evidence against the priest himself, though he was convicted and sentenced to four and a half years' imprisonment. Two months later, after the assassination of the Archduke, a number of the Russophil leaders withdrew to Russia.

It was in these circumstances that the war broke out. The Russian "liberators" poured into Galicia; and the Grand Duke Nicholas in a manifesto hailed the Ruthenes as brothers who had "languished for centuries under a foreign yoke" and urged them to "raise the banner of United Russia."

The first Russian Governor of Galicia was a member of the well-known Russian family of Sheremetiev. His policy was to secure the support of the Poles for the military occupation and to leave the internal affairs of the province alone. This was by no means the programme of the Pan-Slavs, and they set to work at Petrograd to attack him. After a few weeks he was superseded (September, 1914); and Count George Bobrinsky, a cousin of Count Vladimir, was appointed in his place. Count George received his cousin and a deputation of Russophils on the day after his arrival in Galicia, and asked for their coöperation. A drastic Russifying programme was immediately announced; and as a first step the Metropolitan was deported to Russia, where he remained in exile until the revolution. It was not the first time a Ruthene archbishop had been imprisoned by the enemy of Austria. A hundred years before the Russians had arrested one of Szeptycki's predecessors; and there is, or was, a curious inscription on the wall of one of the rooms in the Archbishop's palace. It ran as follows:

"The enemy of Austria cannot sojourn in this palace. He is tormented there night and day. The imprisonment of the Metropolitan is the guarantee of the victory of our troops, and of the revival of Austria. *Castigans castigavit me Dominus sed morti non tradidit.*"

Having deported the Archbishop, the occupying authorities struck hard at the Nationalists. At last it was possible to "deal with the Ukrainian question as a whole"; and to stamp out once and for all "the unwholesome growth of sterile Mazeppism." Every newspaper in Ukrainian was suppressed; every Ukrainian library was closed; the Nationalist educational societies (*Prosvita*) were wound up; and a penalty of three months' imprisonment or 3000 roubles fine was imposed for selling, or procuring from a library or from another person, any Ukrainian book published beyond the boundaries of Russia (*Order of the Governor-General September 30, 1914*). Similar rules were applied in the Bukovina, when the Russians occupied Czernowitz (*Order of January 21, 1915*). A

large influx of Russian Pan-Slavists had taken place immediately after Bobrinsky's appointment; and several of the Russian Ministries had sent agents to report on the occupied territory. The most notable of these visitors was the Russian Bishop Eulogius of Volhynia, who has long been an ardent supporter of the Orthodox propaganda, and has won a name as a specialist in bringing over Uniates in Chelm and in Podlachia. He was strongly backed by the Holy Synods. At the very outset of the occupation the Bishops of the Ukrainian dioceses of Russia, Kiev, Kharkov, Podolia, Pultava, Kishinev, and Kherson, were instructed to make arrangements to place at his disposal as many Ukrainian-speaking popes as he should ask for to undertake missionary work in Galicia. It was further announced in the Russian press that the Holy Synod had set aside a capital sum sufficient to maintain 100 parish popes at 1300 roubles per annum, and 100 chanters at 300 roubles—rates considerably higher than the Uniate Church can afford. All parishes in which there were no Uniate priests—and many had left with the retreating Austrians—were filled with these popes without further formalities. In others, " when a parish expressed a desire to go over to Orthodoxy," a vote by ballot was taken.* A three-quarters majority was required in these cases; and church property was preserved to the Uniate Church, unless the three-quarters majority included the priest. In all during the occupation rather over a hundred parishes were provided with Orthodox popes, and fifteen Uniate priests went over to Orthodoxy.

When the Russian retreat began, the government gave orders to evacuate the civil population, and the Russophils told the peasants that land would be found for them in Russia. The country was to be laid waste, and all barns and agricultural implements destroyed, according to the usual Russian programme. It seems that the programme was not carried out in Galicia with the terrible efficiency which it assumed elsewhere. Nor possibly was the number of peasants actually evacuated more than a few thousands. Accounts from Russian sources of the retreat say that they completely blocked the roads, and were reduced to great privations by the requisitioning of their cattle on the way to feed the retreating troops. There was, of course, no land ready for them in Russia.

* Count Brobinsky interviewed by the *Secolo*, April 19, 1915.

The Duma interpellated the government on these proceedings and on Ukrainian policy in general (August 28, September 10, 1915). One of the Liberal papers of Petrograd published next day the following malicious comment on the debate:

"When we were in occupation of Galicia, there was a swoop of Pan-Slavists looking for jobs in the good work of Russification. 'Here I am,' said Ivan. 'Here I am!' shouted Paul. Now when it is a question of who is responsible for the thousands of unfortunate refugees, enticed into Russia by false promises of land, they are all crying sadly: 'It was not I,' 'It was not I.' Ivan says it was Paul. Paul says it was Ivan. As for Eulogius, he is inclined to think that he was not given a free enough hand."

Meanwhile in Russian Ukraine the Nationalist papers, which had sprung up in Kiev, Kharkov, and elsewhere since 1905, had all been suppressed on the day after the outbreak of the war; and the reversion to the *status quo ante* 1905 in regard to the Ukrainian movement was complete. Certain Nationalists were sent to Siberia, amongst them the *doyen* of Nationalism, the historian Professor Hrushevsky. Others made their way to Vienna, where with the support of the Austrian General Staff they founded a body called the League for the Liberation of the Ukraine, and helped to organize Ukrainian legions. But in the Ukraine itself from the outbreak of the war to the outbreak of the revolution silence reigned. The Cadets at one time took up the Ukrainian Nationalists in connection with their campaign against the government; but even the very cautious, general terms in which, after their manner—there was no party in Russia which the subject nationalities so deeply distrusted—they declared for "cultural autonomy" for the Ukraine, produced a split in the party, and the well-known deputy Struve resigned from the Central Committee (1915). On this silence in little Russia fell the crash of revolution.

At the outset the Nationalist *intelligentsia* took control. Early in April, 1917, they collected a Ukrainian National Congress at Kiev, which pronounced for autonomy within the Russian Republic. Separatist tendencies were not strong at this Congress. The Congress further elected a Council or Rada, so named after the ancient Assembly of the Ukrainian Cossacks; and Professor Hrushevsky was acclaimed its president. The Rada de-

manded from the Russian Provisional Government recognition of the Ukrainian autonomy, immediate local control, and the formation of a separate Ukrainian army. The Cadet attitude in reply to these demands was to refer the question to the Russian Constituent Assembly, in which (as both parties very well knew) the Ukrainians would be completely outnumbered. In studying the record of their brief spell of power in this year it is astonishing to observe with what light-heartedness the Russian Liberals down to the very last treated the National movements of the subject nations. Their attitude constitutes the strongest proof of the deep roots which Pan-Slavism had struck in Russian political mentality. Failing to obtain any satisfaction of their demands, the Rada set up an independent government. The conflict was still in progress, and the Rada was drifting towards a complete rupture, when the Bolshevists precipitated matters by their *coup d'etat* of November, 1917.

The Bolshevist revolution stripped the outer shell of intellectual parliamentarism, and laid bare to the daylight the explosive forces which were stored within the framework of the new state. The Rada was "Kerenskist" in character: it was dominated by the Social Revolutionary party (Kerensky's party), with a more or less complacent phalanx of bourgeoisie in the background. It had secured the support of the peasants and soldiers, or at least, had met with no opposition from either of these classes —for neither was consulted—partly by appeals to the always latent antipathy which exists between Little Russian and Great Russian, partly owing to a confused idea on the part of the masses that a new government, "our own Government," would surely end the war. But, as has been explained, the population in the towns, whether Ukrainian or Russian or Jew, had always been more susceptible to Russian than to Ukrainian Nationalist influences: it read the Russian papers, and belonged to the Russian political parties. When after the Bolshevist revolution Soviets began to be formed in the towns, some were Bolshevist and some were not; but none were Ukrainian Nationalist. Doubtless there were Nationalists among their members; but at such a time the trumpet call of the social revolution dominated all other cries. The Soviets declared a general strike for two days, and allowed no bourgeois papers to appear. The episode opened the eyes of the *intelligentsia* to their own weakness. For the first

time the Social Revolutionaries in the Rada were up against the realities of government. To do them justice they attempted to grapple with these realities according to their lights. They saw that, if they were to fight the Soviets, they must base their government on the support of the peasantry. To what other class could they appeal? The nobility, the bureaucracy, the church, the proletariat in the towns, all were more or less hostile. Except for themselves—and they were not under the delusion (which to the end obsessed the Russian Liberals) that governments can be based upon an *intelligentsia*—only the peasantry were Nationalists, or could be made into Nationalists. To the peasantry, therefore, they proceeded to appeal.

Every one knew what the peasants wanted. Every party had long included it as a plank in their programme; and the Social Revolutionaries themselves had made it a special feature. The peasants wanted more land. Accordingly on November 20, 1917, the Rada government issued a *Universale* or decree—it was the old word used of the Hetman's decrees in the sixteenth century—abolishing all private ownership in large estates, Crown and church lands, and the Imperial Appanages, without compensation. Land Committees were to be set up to carry the decree into effect. The *Universale* further proclaimed various measures, such as state control of production, an eight-hour day in factories, and the abolition of the death penalty, with which it was hoped to take the Soviets' water and do something for the prestige of the Rada in the towns. The Land Committees assembled and got to work. The history of the next six months is well known. The Rada made its separate peace. The Soviets with the aid of Russian Bolshevists overturned the Rada and took Kiev. The troops of the Central Powers retook Kiev, and reëstablished the Rada in ignominious tutelage. They had hardly done so when "a body of peasants" marched on Kiev, dissolved the Rada, and invested a large land owner, an ex-Russian general, with dictatorial powers and the title of Hetman. The Hetman immediately proclaimed the restoration of the rights of private property, "the foundation of culture and civilization," and treated as null and void the decrees of the Rada Government.

This bewildering political record is not intelligible without its social and economic background. The *Universale*, which confiscated the large estates, did not transfer the land into the posses-

sion of the individual peasants, but to district and communal committees. The theory of land-tenure, which the Social Revolutionaries responsible for the *Universale* affected, was that every peasant should have as much land as he could cultivate without hired labor, but in usufruct only and not in possession; he was not to be able to sell or bequeath it; the land was to belong to the community. This was substantially the system on which the greater part of the peasant-land in Great Russia, and some of the peasant-land in Little Russia, was held before the Revolution. It was the system stereotyped by the Tsar Alexander II, when he abolished serfage in 1861. With the confiscation of the large estates it would be possible to apply the system on an infinitely more generous scale. In the Black Earth Zone, in which most of the agricultural Ukraine lies, the peasants at the abolition of serfage received allotments ranging from 8¾ to 3¾ acres. It is calculated that in this region 16¼ acres is the minimum on which a peasant family can support itself without seeking outside work. It might seem, therefore, that all that was needed was to increase the peasants' allotments to 16¼ acres apiece out of the new confiscated land of the large proprietors. So the Social Revolutionaries thought; and up to this point the peasants cordially agreed with them.

But there was a fundamental difference between the peasant standpoint and that of the Social Revolutionary *intelligentsia*. The *intelligentsia* did not believe in the institution of property. The peasants believed that some one else was in possession of their property. Manifestly the two could coöperate up to a certain point, but no further. When the Land Committees were formed, and the distribution of the land began, difficulties at once arose. The legislation of 1861–1863, which abolished serfage in Russian, assumed (with certain qualifications) the existing communal cultivation of the land; but it distinguished between communal ownership and private ownership by the members of the commune. A Russian commune is a kind of large farm. For technical reasons, such as the necessity of providing every year a definite amount of pasture, it cannot be left to the individual cultivator to do what he pleases with his land. He has to leave a certain proportion to pasture, observe the established rotation, and the like. This is what is meant by communal cultivation; and prevails alike under private or communal ownership.

The chief practical difference for the individual peasant between private and communal ownership is in the matter of redistribution of the land. Communally owned land is redistributed at certain intervals between the members of the commune; and one of the chief economic arguments against the commune is the tendency which the system of redistribution has to discourage individual effort. What advantage is it to Ivan Ivan'itch to keep his land clean or manure it, if at the end of ten or fifteen years he may be obliged by the commune to hand it over, and to take in exchange the land of Nikolai Nikolavevitch, who is a drunkard and does not even take the trouble to plough? In communes, on the other hand, where the land is privately owned, there is no redistribution. At the time of the Abolition the system of communal ownership was adopted for the great majority of communes in Great Russia, while the system of private ownership was adopted for the great majority of communes in Little Russia. When the *Universale* was issued, therefore, the principle of communal ownership was by tradition alien to all but a minority of the Ukrainian peasants.

Provision has been made in the Abolition Law of 1861 to enable freed serfs to purchase their allotments by paying off the redemption capital, and to take them out of the commune. These facilities were greatly increased by the foundation of the State Land Bank in 1883. And recent agrarian legislation has been directed avowedly to the abolition, not merely of communal ownership, but of the whole system of communal cultivation. The far-reaching Stolypin reforms of 1906–1908 declared the legal abolition of communal cultivation in all communes with private ownership; that is to say, in the majority of the communes of the Ukraine. This meant that thenceforward the Ukrainian peasant was the legal owner of his allotment, in almost the same sense that a French or German peasant is the owner of his land. Specially appointed bodies were entrusted with the work of constituting self-contained, self-supporting farms, and breaking up the village system. To provide additional land to carry out these reforms, certain Crown lands were made over to the State Land Bank; and the bank acquired in addition a number of private estates. In the six years after the passing of the Stolypin Laws 738,980 peasants were settled in self-contained farms; and 585,571 peasants were settled in groups smaller than the communes according to a

prepared scheme specially designed to form a transition stage between communal and individual cultivation. The bank in the same six years transferred to peasants some 18,000,000 acres. As in the previous twenty-three years of its existence, from its foundation in 1883 down to Stolypin reforms, it had dealt only with 22,000,000 acres, it will be clear that the reforms had notably quickened the process of transition to private ownership, even though no more than the fringe of the problem had been touched.

In communes with communal ownership the Stolypin Laws made it optional for the communes to go over to private ownership. The majority of the Ukrainian communes, having communal ownership, have availed themselves of these facilities. The truth is, the commune is an institution very well suited to the Great Russian temperament, and very ill suited to the Ukrainian temperament. The commune appeals to that fundamental belief, which is ingrained in the Great Russian, in the majesty of the whole and the insignificance of the unit. Many of those who know Russia feel that that belief is amongst the noblest manifestations of the Russian character. However that may be, it forms no part of the Ukrainian character. The first thought of the Great Russian peasant is for the general well-being. The first thought of the Ukrainian peasant is for his own. He is profoundly individualist. He admires success, as the English or Americans admire it; he may envy and abuse it, but the sight of it excites his emulation. It is not so with the Great Russian peasant. There have always, of course, been individual peasants in the Great Russian communes who have grown richer than their neighbors, and acquired their own land in private possession. But their example has rarely been infectious; they have been more disliked than admired by their fellow-peasants, and their success has been attributed rather to the will of God than to the efforts of the successful individual. This psychological difference between the two peoples has undoubtedly tended to retard in the case of Great Russia, and to promote in the case of Ukraine, the formation of a class of land-owning peasants. But there was another factor, an historical factor, tending to differentiate the economic development of the two peoples.

Three and four centuries ago, when the Ukraine formed part of the dominions of the Polish Crown, large numbers of peasants, to escape the cruelties of Polish rule, fled to the steppe and organ-

ized themselves in communities of brigands or Cossacks. There were several of these communities, but the largest was that of the Zaporoguian or Zaporovian Cossacks, whose country was the region (now cultivated but then virgin prairie) to the north of the Black Sea, *za porohi* "beyond rapids" of the Lower Dnieper. After the Ukraine passed from Polish into Russian hands, these Cossack communities were gradually dissolved. A section of the Zaporovians, unwilling to settle to a purely agricultural life, migrated to the Kuban region north of the Caucasus, and form to-day the Kuban *voisko* of the Cossacks. They still speak Ukrainian. All the rest were given grants of land, and settled as free peasants in what are now the governments of Pultava, Tchernigov, and Kharkov. Their descendants, though they have no military organization and have nothing to do with the true Cossacks of the Don, the Caucasus, and Siberia, are commonly called "Cossacks" to this day. These Cossacks, or free peasants, who have never known serfage and have owned their own land for four or five generations, have formed in Ukraine a nucleus, round which all those more enterprising elements among the peasantry, who through the Land Bank or otherwise have acquired their own land, tend politically to group. For years past the Ukrainian peasant has had the standing object-lesson of a whole class of successful land-owning cultivators existing on the same soil and under the same natural conditions side by side with a whole class of unsuccessful communal cultivators. The object-lesson has not been without its effect; and now that the land, as by miracle, has become available with which to make experiments, it has suddenly acquired acute practical significance.

It has already been shown that the land allotments at the Abolition were too small. Since the Abolition the population in spite of a very large emigration has increased by 43 per cent., whereas it is estimated that the additional land made available for the peasants, whether by purchase or leasehold, represents an increase of only 20 per cent. This shortage of land has had the effect of bringing the peasant once more into economic dependence on the landlord, and has gone far to undo all the work of the Abolition Laws. The process has been as follows: The communal land proving insufficient to provide the pasture, which is indispensable for communal cultivation, the peasants have been forced to apply to the neighboring large estates for the lease of pasture-

land. The large estates let it as a rule not in return for money payments, but for labor. The peasant undertakes to harvest so much of the proprietor's arable, and in return is allowed so much of the proprietor's pasture on which to graze his cattle. Frequently a commune makes an agreement of this sort for common pasture for the whole village. Where the land-shortage is especially acute the peasants may even be forced to rent arable from the proprietors. Under this system it is clear that the direct compulsion to work, which existed in the time of serfage, has merely been exchanged for indirect compulsion; and the worst economic feature of serfage, the fact that the peasant's interest is to do as little as he can, is retained.

The peasant-land under this system is steadily becoming less fertile. Before the Abolition the system of tillage was to keep a field under cultivation year in year out, till the soil was visibly getting impoverished, and then leave it under pasture for twice the same number of years. The original steppe cultivation was five years arable followed by fifteen years pasture. It was reckoned that during this fallow period the pasture was at its best from the fourth to the eighth year, and that by the end of the fifteenth year the land was virgin steppe once more. But this system implied that only one-fifth of the land was kept under cultivation. That is no longer possible even on the large estates. On the exiguous peasant allotments it is wholly impracticable. The result has been that the pasture-land has been steadily diminished, and the dependence of the peasants on the large estates proportionately increased. The peasants will now plough a field for six years on end, and then leave it to pasture for three years only. Many communes have no communal pasture at all; and and the soil is continuously ploughed with some such rotation as rye, spring wheat, rye, barley, and (when the soil has been quite exhausted) buckwheat. With the diminution of pasture goes the weakening of the cattle. Then the peasant gives up the plough, which, primitive as it is, at any rate penetrates three inches into the earth. But it requires a good yoke of oxen to draw it. In place of it the peasant uses the *sokha,* which requires only one strong ox or a weak yoke, but on the other hand, penetrates only one and a half inches. If his cattle weaken still more, the peasant gives up ploughing, sows his winter corn on the stubble of the spring corn, and contents himself with scratching over the

soil with a kind of large rake, made of wood with three to six iron teeth at intervals of about five inches. The end is emigration. In the last year before the war, for which statistics are available, of all the peasants from European Russia emigrating to Central Asia, 62 per cent. came from the Ukrainian provinces; that is to say, from the Black Earth Zone, the granary of Eastern Europe.

The contrast between a peasant village with communal cultivation and a village of Cossacks owning their own land leaps to the eye. The appearance of the fields is quite different. In the summer, when the corn is full grown, it is seen to be free from tares on the Cossack land, whereas on the peasant land it is usual to find it more or less overgrown. In the winter the Cossack fields are covered with heaps of fertilizer; the peasant fields have none. The villages of the two are not very different to look at, but the houses of the Cossacks generally have a garden attached, which with the peasants is hardly ever the case. In their gardens the Cossacks grow vegetables for the market on an extensive scale. Though it cannot be said that the Cossack's agriculture is scientific—for scientific agriculture presupposes educational attainments to which the Cossack is a complete stranger—he is keen to make it profitable, whereas the majority of the peasants do not aspire to be more than self-supporting. Socially the Cossacks have a peculiar status, midway between the peasantry and the *petite noblesse*. The peasants sometimes call the richer ones *polupanki* (half-lords), though their standard of living is in no way different from that of the peasants. And since, on the one hand, they have never had the burden of the redemption dues, and on the other hand, they have never felt the need either of French novels or of English governesses for their children, they have been steadily growing richer, whereas both the *petite noblesse* and the peasants have been steadily growing poorer. A large number of these Cossacks, having holdings large enough to be self-supporting, have lived on them, taking no employment from anyone else.*

* As stated above, 16¼ acres is estimated to be the minimum on which a family can be self-supporting; 40 acres is reckoned the maximum which a single family can work, or with the use of labor-saving machinery anything up to 80 acres.

Richer Cossacks rent land extensively from the large and medium estates, paying for it almost always in cash and not in labor. In addition to renting land, they frequently purchase land, sometimes even dispensing with the aid of the Land Bank. In many districts, where they are settled, they are slowly breaking up the large estates. Some own many hundreds of acres. The German economist, Professor Schulze-Gävernitz, in his studies of the Black Earth Zone (*Volkswirtschaftliche Studien aus Russland,* Leipzig, 1899), describes a visit to one of these Cossacks in Kobelyaki, who owned nearly 3000 acres. This man had just purchased an estate, with the chateau of the former owner thrown in; and Schulze-Gäavernitz found he had converted the parquet of the drawing-room into a threshing-floor!

There is no doubt that the Cossacks have led the opposition to the introduction or restoration of communal ownership, which culminated in the *coup d'etat* of May, 1918. That the bulk of the peasants relish their lead is, however, far from probable; for the Cossacks have not a reputation as philanthropists.

"We know you Cossacks," the poorer peasants say; "you are all fist. You grow richer, while your neighbors grow poorer. Why did all the souls of Petrovka village, save three, emigrate last year to Siberia? Because the Cossacks had bought up their allotments. We grow bread for our children to eat; but the Cossacks sell corn to the Jews in Odessa. . . ."

And so on. Such things are no doubt said a hundred times over on the Land Committees formed under the short-lived *Universale*. But this time the Cossacks could reply:

"There is land enough for all now, brother: why not take it, and do the same?"

This *argumentum ad hominem* seems to have been effective; though doubtless its success would not have been so dramatic or immediate, but for the German desire to materialize some of the fruits of the famous Bread Peace. But, with or without the German occupation, and whether the *latifundia* are appropriated *en bloc* or broken up gradually it seems certain that the Cossack party, that is to say, the Cossacks themselves and all the richer peasants, hold the economic future in Ukraine. They represent the process

of transition from primitive to modern agriculture. The process began long ago, and was inevitable with the growth of the population and the passing of the steppe. It was immensely accelerated by the Stolypin reforms. Even a strong government, such as the Rada was not, could do little to arrest or deflect it. Great Russia is perhaps capable of sacrificing economic progress to a social ideal; for the Great Russians are of those peoples who have faith, and with them all things are possible. But the Ukraine is not Great Russia; and no speculations as to the future can be of value which do not take this fundamental consideration into account.

AIR-CRAFT BOMBING IN FRANCE

By Major Samuel W. Bogan, U. S. Marine Corps

1. It was not until 1916 that the German aviators attempted night flying to any extent and seemed to realize the extreme importance and the enormous value of air-raids, on a large scale, against military establishments instead of upon open towns.

2. During the first months of the war, the Hun aviation was inferior to that of the Allies, but later, due to its efficient organization, discipline, and methods used by aircraft manufacturers, it arrived upon more equal terms.

3. The main objectives of bombing expeditions are important railroad stations and centers, ammunition dumps and depots, barracks and storehouses, aërodromes and hangars, and other points of military value. In addition to these, raids are made on submarine bases, munition works, industrial centers, seaports, capital cities and other important places.

4. The raids against London, Paris, Venice, Rome and Naples were made not for what material damage might be inflicted, but for the moral and mental effects these attacks would generate in the inhabitants of these cities, and upon the nations at large.

5. There is no doubt that the fear, inspired by the periodical raids on Paris, was much greater than that caused in the French Capital by the daily bombardments of the German long-range guns. With the exception of the one shell, which struck a church in Paris, on Good Friday, 1918, killing and injuring about 300 persons, the damage suffered from these shellings was extremely slight, due primarily to the fact that the shells were not high explosive; the result upon the Parisians was the opposite from what the Germans expected, it really induced a deeper resentment against the Huns, and a keener determination to win the war at all costs.

6. The air defenses of Paris consisted of an outer and inner ring of anti-aircraft guns (75-mm.) firing tracer shells, observation balloons, searchlights and usually from 50 to 100 combat planes. Advanced listening stations gave warning of the approach of hostile machines.

When word of an air-raid was received in Paris, the alarm was sounded throughout the city and all light extinguished; ordinarily the streets were illuminated by green and blue lights. Street lighting was not indulged in near the front, and in the City of Toul was not permitted.

7. The following quotations from the Paris newspapers (Paris edition of the *New York Herald*), will give some idea of what happened during a raid:

Raid of March 8, 1918:

ENEMY AGAIN RAIDS PARIS
WITH WAVES OF AEROPLANES;
LOSS IS LIGHTER THIS TIME.

ALERTE STARTS AT NINE O'CLOCK AND FIRE OF BARRAGE GUNS CONTINUES THREE HOURS—MANY OF ATTACKERS DRIVEN BACK BY ARTILLERY.

This official communique was issued at one o'clock this morning:

A raid by enemy aëroplanes has taken place.

Warning No. 2 was given at 8:50 P.M. The enemy squadrillas were reported heading for the Paris region. Our aëroplanes went up immediately.

At 10:30 bombs were dropped at several points.

Casualties and material damage are reported. Details are not yet to hand.

Fuller particulars will be given as soon as authentic information has been received.

This second communique was issued at 1:50 A.M.:

The alerte given in Paris at 8:50 P.M. came to an end at 12:15.

According to the first information received, several enemy squadrillas crossed our lines and reached the Paris region in succession.

It would appear that a number of the enemy machines, hindered by the fire of our artillery and the activity of our aviation, were unable to accomplish their mission.

As soon as the warning was given the artillery barrages were put up and a large number of aëroplanes took to the air.

The number of victims is not yet known, but it is apparently less than in the previous raid.

The watch and first-aid services worked well and the new measures of protection proved effective.

The last raid on Paris took place on the night of January 30–31.

Raid of March 11, 1918:

60 German Avions Make Paris Raid; Many Turned Back.

ARTILLERY FIRE OF DEFENSE GUNS DOES EFFECTIVE WORK, BUT BOMBS ARE DROPPED IN CITY AND SUBURBS, WITH LOSS OF LIFE AND DAMAGE TO HOUSES.

The following communiques were issued this morning on the subject of the air-raid over Paris last night:

The first one came from the Press Bureau at 12.5 o'clock:

A raid of enemy aëroplanes has taken place. Alerte Number 2 was given at ten minutes after nine o'clock. Seven squadrillas were reported coming toward Paris. At fifteen minutes after ten o'clock several points at which bombs had fallen were noted. There are victims and material damage. Later information will be given when details are received.

At 12:30 o'clock this second communique was issued:

The alerte given in Paris at ten minutes after nine o'clock ended at fifteen minutes after midnight. According to the earliest information, sixty enemy aëroplanes were seen to cross our lines. Owing to the artillery barrage maintained with great intensity throughout all the raid, a certain number of the enemy machines were not able to attain their objective. However, numerous bombs were dropped, both on Paris and on the suburbs. The number of victims is not yet known, but will be published when the reports are received.

According to late information, one of the German raiding Gothas was brought down in flames three and one-half miles from Chateau-Thierry. The crew was taken prisoner.

It was reported, after one raid, that three hostile planes had been brought down in the outskirts of Paris.

8. A most unfortunate and peculiar accident occurred during one of these nocturnal visitations; three Allied officers were walk-

ing down one of the streets when a bomb exploded nearby; the officers were stunned, and while in this state, one of them was killed and another badly injured by an automobile whose driver was trying to escape from that vicinity.

A much happier ending occurred when a Hun plane dropped a large bomb within twenty-five feet of the Headquarters of General Massey, of East Indian fame, Canadian Corps Artillery; the bomb failed to explode much to the delight of the General and his staff.

9. From the number of hospitals bombed, it was evident that the Hun airmen had orders to destroy all such units that they possibly could. As an incident of this, a Canadian Hospital Unit located to the west, of what was left of the town of Souchez, was forced to evacuate its position, due to the bombing by planes and the shell fire directed upon it by the German batteries. This unit was situated on a hillside in very open country, with nothing of military value in the immediate vicinity, and each building was plainly marked with a large red cross, on white field, with the Red Cross flag flying at all times.

10. On the Western Front night bombing by aircraft was usually the rule, but preceding and during the big German offensive of March and April, 1918, day bombardments, by the Huns, were quite frequent. Isolated excursions by single planes were almost a daily occurrence.

11. At one time, in the latter part of March, it was necessary to make the trip from the Canadian Front, near Arras, to Paris. The nearest point, at which it was found possible to catch a train, was St. Pol (a considerable distance in rear of the lines), which was reached by motor at about 2:30 in the afternoon. Just an hour before, German aëroplanes had bombed the town and had attempted to destroy the railroad station while a passenger train was in it. The bombs failed to hit the station but smashed all the windows and glass-doors. The town suffered considerable damage and a number of inhabitants were killed and injured. The train, which was in the station at the time, carried most of the injured to Amiens for treatment at the hospital there.

During this period the people in Amiens were continually kept on the alert, as the Huns were constantly sending day bombing expeditions over this locality; one of their main objectives was the famous cathedral.

12. At the second Battle of the Marne, some of the British and French airmen took as their targets the river crossings, bombing them repeatedly; so efficiently was this work done that at some points the enemy's supply service was completely stopped.

At this battle, on July 20, 1918, twenty-four tons of bombs were dropped during the day and twenty-eight tons that night, by the Allied air service. On the same date twenty-six German planes were brought down or disabled, and four of their captive balloons set on fire.

13. A British Staff Officer gave the following account of a feat performed by the French airmen for which they should be justly proud: "During the big offensive in March, 1918, word was received that two Hun divisions were hastening up a certain road to re-enforce the part of the German line then attacking. The French immediately sent over one hundred bombing planes, which, flying low over the German infantry, put their two divisions out of the action by bombing and machine-gun fire."

A MARINE CORPS DRILL BOOK

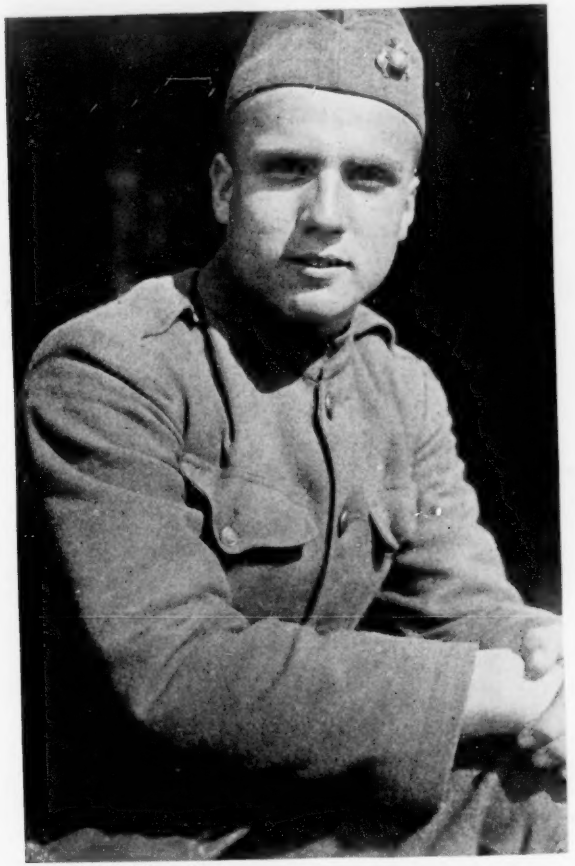
By Major William P. Upshur, U.S.M.C.

ARTICLES have recently appeared in the Marine Corps Gazette expressing a desire for a Marine Corps Drill Book, and due to a very apparent misunderstanding as to the "Landing Force Manual, 1918," I wish to outline in a brief way the contents and purpose of this manual.

For many years the Marine Corps has been drilled in accordance with provisions of the "Landing Force and Small Arms Instructions, U. S. Navy," which appeared originally in 1905, and which was revised in 1912. There have also been several other revisions, but they consisted only in a change of the "Navy Firing Regulations," and did not affect the Drill regulations Section of the Manual. The 1912 "Landing Force and Small Arms Instructions" adopted many of the provisions of the "Infantry Drill Regulations, U. S. Army, 1911." However, there were a great many perplexing differences, many errors, particularly in the so-called Street Riot Drills, and much obsolete matter. The book was also poorly arranged and in general was most unsatisfactory for Marine Corps use.

There seems to be a very general belief among Marine officers that the new "Landing Force Manual" is practically a repetition of the older manual, that it is not suitable for the Marine Corps, and that its provisions differ from, and are contradictory to, the provisions of the "Infantry Drill Regulations" and other Army manuals which have been followed in the Marine Corps since America entered the European War. As a member of the Board which revised the new regulations, or rather compiled this new text book, and having been engaged in this work for a year, I am able to state authoritatively that the Marine Corps has, if it wishes to use it, a manual entirely suitable in every particular for its needs.

A detailed discussion of the new "Landing Force" is not possible here, as there are a great many matters that would have to be treated in detail, and many other points would require explanation. I will merely take up the objections Captain Karow



(U. S. A. Signal Corps Photo)

PRIVATE CRVILLE B. YORK, 20th CO., 5th MARINES, OF FRANKLIN, OHIO

New Pistol Champion of the A. E. F. York, who is 18 years old, beat 800 of the A. E. F.'s best in the Overseas Competitions on d'Auvours range, Belgian Camp, near Le Mans.

(U. S. A. Signal Corps Photo)

PRIVATE FRED. KRAMER, 6th MARINES

Winner of the Individual Automatic Rifle Competition, d'Auvours Range, Le Mans.

seems to find and add a summary of the contents of the " Landing Force " with explanatory notes on the various subjects.

Captain Karow states in his article:

" Let us see what the situation is with the ' Landing Force ' of 1918.

" This book has adopted the ' Infantry Drill Regulations ' entirely except the ' Manual of the Saber ' and the ' Manual of the Bayonet.' It has included the ' Manual of the Bugle ' and ' Physical Drill with Arms.'

" So with it we have the following books to be used:

Subject	Book
1. Infantry Drill	Infantry Drill Regulations.
2. Guard Duty	Manual of Interior Guard Duty.
3. Guard Mounting	Landing Force. (But method is same as in M. I. Guard Duty.)
4. Physical Drill with Arms	Landing Force.
5. Physical Drill without Arms	Ship and Gun Drills.
6. Manual of the Bugle	Infantry Drill Regulations and Ship and Gun Drills.
7. Manual of the Saber	Infantry Drill Regulations.
8. Manual of the Color	Infantry Drill Regulations.
9. Manual of Tent Pitching	Infantry Drill Regulations.
10. Manual of the Bayonet	Infantry Drill Regulations. (But that of Landing Force is improved and better than the I. D. R.)
11. Instructions for Making the Pack	Uniform Regulations, U. S. Marine Corps."

Captain Karow then states that a total of five books are required in order to obtain the necessary instruction matter, but admits that the " Landing Force " contains much of the same information as does the " Infantry Drill Regulations."

The following notes are submitted on the foregoing list:

1. Infantry Drill: The Landing Force contains the same instruction in all particulars as does the I. D. R.

2. Guard Duty: The Landing Force contains the same instruction as does the Manual of Interior Guard Duty, 1914, with the following exceptions: The Ceremony of Guard Mounting has been shifted to the section under Honors and Salutes, where it properly belongs. The method of computing the number of men required for guard from the several companies of an organization has been omitted, as it is a matter that concerns sergeants major only and limited space in the manual required that the book be kept within reasonable size. Therefore, this matter which was considered extraneous for practically all company use was omitted. All regulations relating to Stable Guards and the Regulation of General Court Martial Prisoners has been omitted for the same reason, and for the further reason that the discipline of GCM Prisoners is governed by the Regulations for Naval Prisons, and cannot be carried out in accordance with Army Regulations which manifestly do not apply. Certain of the paragraphs of the Manual of Interior Guard Duty have been combined, as it was noted that they treated of the same subject, and an excessive number of articles in the Regulations was considered undesirable.

3. Guard Mounting: The Landing Force contains the same instructions in all particulars as does the I. D. R.

4. Physical Drill with Arms: The Landing Force contains the same instructions in all particulars as does the Ship and Gun Drills, U. S. N.

5. Physical Drill without Arms: The instructions on this point were properly omitted because the Swedish system, which is the system required in the Navy, is too long and complicated to be included in the Landing Force, and requires special instructions to obtain the best results, and further because the Physical Drill with Arms and the other exercises required in connection with practice Marches and Bayonet Training is sufficient for proper physical development of the soldier.

6. Manual of the Bugle: The Landing Force contains the same instructions in all particulars as does the I. D. R.

7. Manual of the Saber: The old Manual of the Sword has been retained. The Army Manual of the Saber has never been adopted by Marine officers to my knowledge, even though we have been using the Army Drill Regulations. However, infor-

mation was sought from numerous Marine officers as to their desire to include the Army Manual of the Saber in the new Landing Force, and all were opposed to this change, as they considered our Manual better and more suitable for the Marine Corps.

8. Manual of the Color: The Landing Force contains the same instructions in all particulars as does the I. D. R.

9. Manual of Tent Pitching: The Landing Force contains the same instructions as does the I. D. R. except that instructions relating to the pitching of shelter tents is confined to the rectangular tent, as no remodeled shelter tents, using the bayonet and rifle for supports, have ever been manufactured for issue to any Marines, and as the Army have themselves given up this modified form of shelter tent as being unsatisfactory.

10. Manual of the Bayonet: The instructions for bayonet training were taken from the British Manual on the same subject, which instructions were used in all bayonet training in the British Army, and which also were used in a slightly modified form in our own Army. These instructions were used in place of those prescribed in the Drill Regulations of the Army because the Drill Regulations Board was informed that this system had been adopted by the Army. This information was authoritative and came from the Commandant of the Army School at Plattsburg who was himself a member of the Board whch compiled the I. D. R. of the Army.

11. Instructions for Making the Pack: The Landing Force contains the same instructions as does the Poster issued by Headquarters Marine Corps for use in making up the pack, and two of the plates shown in the Landing Force to make this explanation clear were furnished by the Marine Corps Publicity Bureau of New York City.

It will be seen, therefore, from the foregoing that far from requiring five books to conform with the existing Regulations that only one, the "Landing Force Manual, 1918," is really required.

The following is an extract from the table of contents of the "Landing Force Manual," and is furnished as a possible source of interest to those who care to know from what sources the information and instructions contained in the "Landing Force Manual" were obtained:

Subject	Source from which Obtained
Part I: Infantry Drill Regulations.	
1. Organization Drill, etc.	1. Infantry Drill Regulations.
2. Ceremonies, Reviews, Parades, Escorts, Street Parades, Inspections, Guard Mounting.	2. All from I. D. R., except Guard Mounting from M. I. Guard Duty, and Street Parades taken from the old Landing Force because the I. D. R. has no instructions on this subject.
3. Honors and Salutes.	3. Infantry Drill Regulations.
4. Manuals—	
(*a*) The Color.	4 (*a*). Infantry Drill Regulations.
(*b*) The Band.	4 (*b*). Infantry Drill Regulations.
(*c*) The Sword.	4 (*c*). Old Landing Force. (See previous remarks as to why this Manual was retained.)
Part II: Artillery and Machine Guns.	
1. Artillery.	
(*a*) Organization Drill, etc.	1 (*a*). Rules of I. D. R. apply for organization maneuvers and drill.
(*b*) Control of Fire.	1 (*b* and *c*). Taken from Field Artillery Regulations, U. S. Army, 1916.
(*c*) Artillery in the Field.	
2. Machine Guns.	
(*a*) Organization Drill, etc.	2 (*a* and *b*). Taken from the most recent instructions on the tactical use of machine guns from experiences in the European War, without violating existing Regulations relating to confidential publications.
(*b*) Tactical Use of Machine Guns.	
Part III: The Landing Force.	
1. Organization, Equipment, etc.	Rewritten from the old Landing Force, from experiences gained in landing operations in Nicaragua and Vera Cruz. Such parts of the Field Service Regulations as apply are included. List of equipment taken from the System of Accountability, U. S. Marine Corps.
2. Preparations for Landing.	
3. Embarkation, Landing, etc.	
4. Training and Shore Drills.	

Part IV: Interior Guard Duty and Security and Information.

1. Interior Guard Duty.	1. M. I. Guard Duty, except as before noted.
2. Exterior Guards.	
(*a*) Outposts, Patrols, etc.	2 (*a* and *b*). I. D. R. and Field Service Regulations, U. S. Army, also Army Text Books.
(*b*) Advance Guards, Rear Guards, etc.	
3. Provost Guards.	3. Field Service Regulations, U. S. Army—Regulations for Military Police.

Part V: Marches and Camps.

1. Marches.	1. I. D. R. and Field Service Regulations.
2. Camps, Bivouacs and Cantonments.	2. I. D. R., Field Service Regulations and revised section from the old Landing Force.
3. Tent Pitching.	3. I. D. R., except as noted in preceding remarks on the same subject.

Part VI Combat and Field Operations.

1. Combat.	1. I. D. R. and Field Service Regulations.
2. Minor Warfare.	2. I. D. R.
(*a*) Minor Operations.	(*a*) I. D. R.
(*b*) Street Fighting, Occupation of Cities.	(*b*) Instructions for the U. S. Army issued by the Army General Staff.
(*c*) Riot Duty.	(*c*) Army Text Books.
3. Field Engineering.	
(*a*) Field Fortifications.	3 (*a*). Intrenchments (Solano), I. D. R., Engineers' Field Manual and Army Text Books.
(*b*) Defense of Towns and Villages.	3 (*b*). Engineers' Field Manual, U. S. Army, Revised Edition, compiled to include instructions from Lessons of the European War.
(*c*) Demolitions.	3 (*c*). Army Text Books.

Part VII: First Aid and Military Hygiene.

1. First Aid.	1 and 2. From old Landing Force, rewritten and revised by the Bureau of Medicine and Surgery, U. S. Navy, 1917, including instructions from lessons gained in the European War.
2. Military Hygiene.	

Part VIII:. Miscellaneous.

1. Map Making.	1. Adapted from Engineers' Field Manual and other Army Text Books.
2. Small Arms, Nomenclature, Care and Training.	
(*a*) The Rifle.	2 (*a* and *b*). From Nomenclature pamphlets of the rifle and pistol, and from instructions contained in the old Landing Force on the same subject, prepared by Lt. Col. W. C. Harllee, U. S. M. C.
(*b*) The Pistol.	
(*c*) Estimating Distances.	2 (*c*). From Small Arms Firing Regulations, U. S. Army, 1914.
3. Physical Drill with Arms.	3. Ship and Gun Drills, U. S. Navy.
4. Bayonet Training.	4. Bayonet Training Manual, British Army.
5. Wall Scaling.	5. New text based on Army methods and from experiences gained in wall-scaling tests in athletic competition.

Part IX: Bugle Calls and Signals.

1. Manual of the Bugle.	1, 2 and 3. Infantry Drill Regulations.
2. Bugle Calls.	
3. Bugle Signals.	

It will be seen from the foregoing list that everything of importance that could be included in a single text-book has been carefully considered, and the Board during its long and careful consideration of the text, spared no effort to see that none but the best and most up-to-date instructions were included. As already stated, the parts relating to Drill Regulations and Ceremonies are identical in both the "Landing Force" and "Infantry Drill Regulations." The other parts relating to Combat, Marches, etc., are not identical in all particulars, since the "Field Service Regulations," which contains much material which is also included in the "Infantry Drill Regulations," was used in many instances because it was much wider in scope and because it was clearer and better expressed than corresponding instructions in the "Infantry Drill Regulations." This applies particularly to Marches,

to parts of the Combat Section, and also in that part of the text relating to Advance, Rear and Flank Guards, Outposts and Patrols.

It must be stated that considerable confusion has been caused by the misunderstanding of Marine Corps Order No. 51, Series 1917. This order was issued to the service in order to put the provisions of the "Infantry Drill Regulations" into effect for the Marine Corps pending the publication of the "Landing Force," which it was known would contain the same instruction and which would necessarily be somewhat delayed in publication.

This was, of course, a wise and necessary step, as Marines were being rushed to Europe as fast as they could be trained, for service with the American Army, where they were required to employ Army drill and tactics. It is not believed that this order was intended to provide that the "Infantry Drill Regulations" should be used after the publication and issue of the "Landing Force Manual." However, an additional sentence has now been added to the original order, which complicates the situation, since it is made to appear that the "Infantry Drill Regulations" is still in force for Marines, but that the provisions regarding Honors and Salutes contained in the "Landing Force Manual, 1918," will be followed except by Marines serving with the Army.

As the new "Landing Force Manual" has been directed to be put into effect by order of the Secretary of the Navy, it would appear to be binding on Marines serving everywhere except with the American Expeditionary Force in France, and as it contains no conflicting instructions with Army Regulations, it would make little difference whether Marines serving overseas use the "Infantry Drill" or the "Landing Force."

In conclusion, I wish to say that particular attention has been paid to the requirements of the Marine Corps in this manual, and that it is a real Marine Corps Drill Book in every sense of the word. Company officers and non-commissioned officers require no other, except where knowledge must be gained from textbooks not mentioned in Captain Karow's article, and the five books referred to by Captain Karow may with safety be dispensed with without further trouble or confusion.

THE UNIFORM

By Colonel George C. Thorpe, U.S.M.C.

A REVIEW of the history of uniform dress strikingly illustrates that it has been one of the most neglected features of military preparation and organization. In the selection of armament, an economical ration, and an organization, and in formulating tactical and strategical principles, military and naval leaders have been "estimating the situation," especially in the last century and a half; thus, they have foreseen conditions of "the next war" with the result that they were essentially prepared for prevailing new features and conditions—except as to the uniform. They have aimed, in peace, to prepare for war. But instead of making the selection of a uniform a part of such estimate, it has been left to the "trial and error" method. In nearly every war, belligerents have entered upon the campaign with uniforms poorly adapted to the new conditions of fighting. For example, in Frederick the Great's time, that great general's chief concern was to increase rapidity of infantry fire; he increased the depth of his companies by several ranks and adopted every possible measure of training to obtain volume of fire per capita—except providing a uniform that was adapted to easy handling of the piece. The greatest rigidity of dress prevailed until costly experience suggested that by the simple process of loosening the sleeves of infantrymen a very high increase in rapidity of fire could be obtained. George the Fourth's lifeguards were corsetted so closely that the men could not do the sword exercise (which was important then), and the three-feet-high beplumed helmet obstructed the overhead cut of the saber. Then came the Crimean War when actual campaigning showed the unadaptability of the dandy uniform; experience brought on a violent reaction in uniform matters, with a really too-far swing of the pendulum toward ease and slovenliness.

Striking back into the earlier history of military dress, we find that the adoption of uniforms for soldiers became general only in the comparatively modern times of national armies. In ancient times there were some attempts at uniformity as in the case of

(U. S. A. Signal Corps Photo)

SGT. RAY TRUSLER OF THE 5th BRIGADE, U. S. M. C.

(U. S. A. Signal Corps Photo)

SGT. MICHAEL FISHER OF THE 5th BRIGADE U. S. M. C.

Winners of first and second places respectively among the distinguished marksmen competing in the A. E. F. meet. Distinguished marksmen's scores were kept on a list separate from the others, and were awarded special medals. Sgt. Trusler shot 543 and Sgt. Fisher 530.

the red and white uniforms of Spanish regiments used by Hannibal. Contestants were sometimes designated by improvised badges, cockades, sprigs of leaves, scarfs of uniform color (as in the Swedish army of Gustavus Adolphus), or by some uniform unusual way of wearing a part of the dress. But it was found that these easy improvisations could be imitated readily by enemy scouts, as in the case of the Royalist Squire who, disguised by putting on the orange scarf of the Parliamentarian adherents, recaptured the royal standard at Edgehill (1640).

The next step in the development of the uniform is found in the distinctive dress furnished by wealthy proprietary colonels, to their followers, wherein there was some competition and wherein rich uniforming was an inducement to enlistment. There were, for example, the "King's Own Bluecoats" and "Newcastle's Whitecoats," whereas other citizen soldiers whose officers were not affluent went to war in their peasant costumes helped out by armor.

So long as there was no uniform dress applicable to all elements of one belligerent, standards and colors were of greater tactical importance than at present, as they served as a rallying point.

In 1645 (Cromwellian period), when the English Parliament raised a permanent army, there was an attempt at uniformity, but even this dress was not much more nearly uniform than was the fashion costume of a class and date, except that there was uniformity of color (red coats and gray breeches with distinguishing color-facings for the regiments). It was in this period that the primal ancestor of the American campaign hat was born: the helmet was displaced by a gray broad-brimmed felt hat, the brim of which has periodically tempted manipulation—two sides up making the cocked hat of the eighteenth century; one side up, the field hat of the Boer War; and straight-brim the American campaign hat for several generations.

The coat of the Cromwellian period was a long-tailed, voluminous affair, with waistcoat, so that it was not necessary to provide a "greatcoat" (overcoat). The coat gradually took on a standing collar (in imitation of the civilian stock), shortened its tails, and evolved the tunic.

With the increase of size of national armies the dress of the soldier became more and more uniform in pattern, as well as in

color. This result grew out of the economic measure of manufacturing uniforms in quantities instead of each individual providing his own.

As to color, red was easily the favorite in the earlier days, especially in England. In the latter part of the seventeenth century, the French and Austrians adopted gray as a good service color; the Swiss were in red, Italians blue, and Germans black.

It seems that the English were the first to adopt a special color for foreign service, when they provided the russet color for troops serving in Ireland as they later adopted khaki for Indian service and as we had a sort of khaki for tropical service after the Spanish-American War.

In view of the present controversy over the standing collar versus the roll collar, it is interesting to note that the British have passed around the circle, first having a loose roll collar on the ample long-tail coat of the Cromwellian period, which they converted to a standing collar to meet prevailing fashion of stiffness, which tendency was pushed a step further in providing a stock within the standing collar, making two bindings for the neck; and lastly reverting to the comfortable roll collar for an epoch of fighting which has followed the epoch of dandyism.

The history of the coat sleeve carries several traditions. Plates of British infantry of 1742 show a large flaring cuff with buttons and stripes which laced the flaps of the cuff together. These useless adjuncts doubtless were much in the way, for plates of later date show a gradual diminution of size of cuff until nothing is left but the ornamental part—a tab with or without buttons. There is one tradition to the effect that buttons were left on the sleeve cuff to prevent the soldier from drawing the sleeve across his mouth or nose.

The present trench cap is a descendant of the old mitre-shaped cloth cap that is seen in old plates of English grenadiers.

In general the British uniform has been plainest in field service and handsomest in full dress, and the British were the first to divorce the full dress from actual service.

As a further generality, traces of French influence are more numerous in American uniforms than are traces of any other nationality. This is particularly true of headgear. The chapeau and forage cap were French, as well as the epaulet. The last-named article is an exaggeration of a shoulder strap first em-

ployed to support the sword belt; French taste for embellishment beautified such shoulder straps by adding a little fringe at the shoulder which fringe grew into a bush which turned into gold. The trouser stripes and army shoulder straps are also French.

The purpose of the foregoing historical résumé is to show some of the errors of the past that we may profit thereby and realize that the requirements of a good uniform, as a basis of selection, are:

(1) It should meet tactical requirements: (*a*) assuring low visibility, and (*b*) permitting freedom of movement of the soldier.

(2) It should meet hygienic conditions. So, for warm weather or tropical service there should be a special dress that is easily washable; a hat that will protect the eyes and neck, at the same time, not be too warm for the head; and in general the legs should be protected, in the tropics, against such tropical enemies as cactus, thistle and insects that have their habitat in the grass; at the same time there should be the minimum of constriction of parts of the body that would interrupt free circulation of the blood. For tropical field service there must be some sort of legging; probably a leather legging that does not squeeze the leg but fits fairly snugly over the top of the shoe best meets hygienic requirements. The high boot is too hot; the wrapped puttee interrupts circulation; the canvas legging binds the leg too tightly unless it is adjusted so loosely that it will not serve well. But because tropical service requires leg armor is no sufficient reason for wearing that sort of protection in temperate climates where there are no insect or cactus tribe enemies to guard against in the streets of our great cities or in the garrisons of our northern ports. Why should the additional expense and discomfort of wearing leg armor be imposed in places where there is no reason for it? The usual answer that the be-legginged soldier "looks more military" will not bear analysis. Unless the kind of uniform to be worn is fixed upon rational grounds, the uniform is burdened with an element of absurdity—which is the enemy of good taste. Another hygienic consideration that has never been seriously entertained is the shape and kind of hat worn in the tropics. The felt campaign hat has always been the American rule. It has little to recommend it. It is hot and

heavy on the head, prohibits ventilation of the hair, and does not shade the sensitive part of the neck. The only excuse for wearing it is that it shades the eyes. The tropical hiker is annoyed with his hat all day long and often carries it in his hand. Straw hats are made in every tropical country where the American soldier campaigns. For less money than the cost of the campaign hat, a stout straw or fiber hat of the Panama pattern could be had of a uniform make. It would be light and cool for the head, shade the eyes, and, with the rear brim a little wider than that of the campaign hat, proper shelter could be had for the back of the neck. Such a reform would avoid many heat prostrations and fevers due to sun-irritation of the vitals of the neck. Another reform that would go far towards avoiding abuse of the neck would be the roll collar for all coats so that neck binding would not obstruct the important vital channels (for nerve and blood) that pass through the neck. Of course, the purpose of such a reform would be defeated if a stiff collar should be prescribed to be worn with a roll collar coat. If we cannot get away from the old idea of having a stockade around the neck we might as well keep the stock attached to the coat as at present.

(3) The uniform should be such as may be popular with wearers: it certainly should not be such as would scare men away from the service instead of invite them to join. This condition will be met by a selection in good taste. Gaudiness and exaggeration in form, color or proportion are the enemies of taste, while simplicity in these elements is its friend. In fact, simplicity and utility are the great criterions in selection. There may be a certain amount of ornamentation in uniforms without doing violence to the canons of taste, but each bit of ornamentation must suggest some utility and if the ornamentation is in excess of the utilitarian requirement it offends taste. For example, certain colors are psychologically monotonous (and, so, painful and thus uneconomical) if not relieved by a slight color contrast (to break and rest the movement of the eye muscle). That is the artist's explanation for the fact that the new Navy service blue coat is not entirely pleasing to the eye. There is an unbroken mass of sombre color from the neck to the shoe. A very small tab of color on the collar or lapel of the coat would afford the eye a slight distraction and so relieve the monotony. For the same reason the Navy white coat and cap are artistic successes

with the contrast of dark shoulder straps and dark cap band upon fields of white. Furthermore, they are successes because these two items of contrast suggest uses, the shoulder marks to indicate rank (not too flamboyantly), and the cap band to hold on the cap cover. (Possibly the black band is not necessary for that purpose, but there is the suggestion of such utility, and that is enough to satisfy taste.) The uniform will not be universally satisfactory to wearers, nor tend to appeal to possible wearers (those who are estimating the military professions with a view to joining), if it has elements of marked exaggeration in form and proportion. Here again, the utilities should dictate. The coat should suggest ampleness, not scrimpiness: it should be large enough to make a good foundation for pockets that will accommodate some of the military officer's most urgently needed equipment, such as maps and note books, and its tails should be long enough to cover the seat and thus accomplish the intended purpose of coat tails. The breeches should be large enough to give an easy seat when the wearer is mounted, but no larger, lest the critic be led to suggest that the exaggerated bloomer is showing the Turkish influence. Of course, the adopted uniform will not enjoy prolonged popularity if it is not comfortable. This is a hard age wherein men must needs work efficiently; they need all their physical energy for their tasks and cannot allow much wastage to be accounted for by unhygienic clothes, such as bound necks, tight boots, and unnecessarily armored legs.

(4) The uniform should meet economic considerations: (*a*) As to initial and ultimate cost; (*b*) as to transportation. "The best is the cheapest" is a pretty safe rule. Uniforms should be well made of good material. There should be only as many different uniforms as economy dictates. For Marine Corps service that means that there must be a winter field and a summer field for officers and enlisted men, and a summer dress for officers. The reason for the summer dress for officers is that in tropical service there are many occasions of official and official-social intercourse with officials of Latin descent who invariably "wear togs" and who are offended by any apparent or real negligence in the matter of dress by their hosts or guests. Marine officers should further be provided with such dress uniforms as to be able to meet all occasions when serving with the Navy. If the Navy continues to use the special full dress, full dress, dress, and

social intercourse costumes, Marine officers serving with the Navy should be provided with full dress tunics (to which may be attached epaulets or shoulder knots) to be worn when the Navy wear special full dress, full dress, or dress, and a mess jacket or social intercourse for evening social occasions.

(5) Without sacrificing any of the foregoing practical considerations the uniform should favor traditions so as to be an element in supporting *esprit de corps*. There is undoubtedly a great deal of real value in that. For instance, a certain unit of the British Army wears a bunch of ribbons dangling from the rear of the coat collar. One may find it slightly ridiculous until one is told that something happened some two centuries ago when that same unit was in battle and someone of the unit got a ribbon (or maybe a rope) around his neck, and so the unit has worn ribbons there ever since. One can see at once the value of that as recruiting propaganda. A man of that unit, we will say, is on liberty or leave and someone (everyone, in fact) will ask him the reason for the ribbons in so extraordinary a place (growing out of his back) and then he will tell the whole story of the daring incident of long ago, and that is sure to interest some people to the extent of getting recruits. The only item of uniform that the Marine Corps has clung to since long ago is the corps device, and so there is no reason for clinging to any other part of the uniform from the tradition point of view.

As conclusions from the foregoing arguments, it would seem that the Marine Corps needs the following principal uniforms:

(1) Winter service suit of low-visibility color consisting of:

(*a*) Coat of ample pattern so that tails will cover seat, with large patch pockets and roll collar on the lower ends of which (next to upper ends of lapels) there should be a small scarlet tab upon which the corps device should be embroidered or pinned, the tab to be about 2 inches long and 1.5 inches wide; shoulder straps of same material as coat, bearing rank devices (and in case of staff officers their staff insignia).

(*b*) Trousers of same material as coat, without any welting or stripes; for ordinary wear.

(*c*) Breeches of same material, for mounted duty and for service where leg protection is necessary.

(*d*) Boots for general, field and staff officers, when it is necessary to wear breeches.

(*e*) Leather leggings and laced shoes for all other officers and men, the leggings to be worn when leg protection is necessary.

(*f*) Winter service cap of same color and material as coat, and about same model as present Army officers' cap without braid ornamentation to top now worn by Marine officers, but with embroidered visors for general and field officers.

(*g*) Felt campaign hat of present pattern for field service.

(2) Summer field of Indian khaki, duplicating winter service suit, except that the red tab for collar should be enamel so as to be detachable, and, instead of felt hat, a broad brimmed straw or fibre hat of Panama pattern with rear brim elongated so as to afford protection for back of neck. At first glance it may be thought that straw or fibre is impracticable for uniform, but there are several precedents for it: the British sailor has a broad brimmed straw hat that he likes immensely and that looks well; also, I believe, the Dutch Navy is similarly uniformed. Spanish colonial troops used to wear straw hats that looked well, were comfortable and durable.

(3) Summer dress, of white duck, consisting of coat, trousers and cap in duplication of model of summer field. White shoes.

(4) Evening dress consisting of present mess dress.

(5) Full dress consisting of present tunic, mess trousers, full dress sword belt, and helmet. The present non-descript full dress cap, which is nothing but a stiff forage cap, is certainly not in keeping with the other articles of full dress.

(6) Overcoat of same material and color as winter field, but very short, with roll collar and lapels that may be turned back or around the throat. Red tab on the collar as described for winter field coat, and devices and insignia similarly worn.

(7) Raincoat of voluminous pattern, cut for mounted duty, color same as winter field, with large patch pockets with efficient flaps, and a belt of same material as coat. Material of coat should be tight woven serge or other fabric that is water-proof, so that there will be no rubber in the coat, as rubber tarnishes all metals and gold or silver embroideries that it comes in contact with.

(8) A blue cape or boat cloak will be necessary so long as full dress is a part of the uniform, as an overcoat cannot be worn with epaulets.

(9) Shirts: There should be a woolen and a Chambray shirt with soft roll collar, to be worn with or without the field coat, depending upon the temperature.

(10) Scarf: A scarf of same color as shirt should be furnished enlisted men and prescribed for officers.

(11) Underclothing: Instead of having the undershirt and drawers manufactured separately, they should be in one piece known as the unionsuit. The latter would be a more comfortable garment and there would be a considerable saving in material in manufacture and a saving in laundry. A light woolen sock should be provided for field service.

Government clothing factories should be open to the patronage of officers so as to force merchant tailors to reasonable prices for uniforms.

SUGGESTIONS AND CRITICISMS ON CHANGES IN UNIFORMS

By Major Harold Wirgman, U.S.M.C.

IT seems, as Major Hill suggests, in the December Gazette, that now is the time to get together on a uniform that will be acceptable to the Corps as a whole. I have also talked with a great many officers on the subject and the consensus of opinion seems to be about as Major Hill has stated.

Certainly we should do away with all the old full-dress and mess-dress uniforms. This opinion seems to be almost unanimous. There is no place for full-dress in our modern service. It has served its purpose. Let us give it honorable retirement. The suggestion to do away with all our numerous caps is an excellent one. If the overseas or glengarry cap is adopted, it would cetrainly be a relief to get rid of our blue, white, green, khaki and gold caps. Every officer knows how much space they take up, especially on board ship; how impossible it is to pack them without crushing, unless one has an especially designed trunk or box. Crushed caps are in evidence only too often.

The garrison uniform seems to be about what everybody wants. Personally, I think that long trousers should be the rule and riding breeches for mounted or field duty only. The long trousers are certainly more comfortable and in my opinion quite as smart as the riding breeches and puttees. Even with the best fit, these impede the circulation of the blood in the legs somewhat. The long trousers are cooler. The officer of the day, in hot weather, inevitably, after evening colors, receives a request from the guard for permission to remove their leggings.

As to tropical headgear, I have always found the helmet, as issued by the Quartermaster's Department, preferable to the campaign hat. Due to the circulation of air between the sweat band and the helmet itself, the large air space above the head, cooled by the large ventilator on top and the overhang at the back of the neck. Of course this was in garrison only. The campaign hat seems indispensable for tropical field service. I see no reason why the blue undress uniform with glengarry cap should not be used as a social and dress uniform.

It could be used even for dinner and evening dress. It is actually so used at present. If this was the case, it would render the cutaway, dinner jacket, evening dress, etc., unnecessary; thus eliminating the expense of all the civilian clothes necessary for social occasions in peace times and further reducing stowage space. The undress uniform "goes" everywhere now, at all social functions; why should it not do so in the future?

I do not mean to go on record as favoring the abolition of civilian clothes for those who desire to wear them. The relaxation afforded by donning "cits" and "forgetting it" for a while is worth the expense of keeping them.

Finally, it seems to me that a uniform board much larger than usual, composed of officers representing all our different activities and with a fair sprinkling of younger officers who are doing the actual service duties, should be convened when the time is ripe. Such board to send out interrogatories as the navy board did and then to sift all the different opinions and come to a decision as to what is best for us all.

By Major John Marston, U.S.M.C.

Many marine officers will be in hearty accord with Major Hill's ideas on uniforms after the war, though there will always be a divergence of opinion over details.

The present full-dress uniform is not a useful garment and the average officer is seldom required to wear it except on very rare occasions. The future will probably find marines serving more frequently than in the past with officers of foreign armies and navies and some sort of a full-dress regalia will be considered a necessity as long as other services adhere to the custom of wearing epaulets, long-skirted coats and ornate headgear on occasions of ceremony. The cost of the full-dress uniform is much out of proportion to its utility and it would be a great relief to have its cost reduced. There should be no serious objection to changing our full-dress uniform to the present blue undress to which could be added shoulder knots and other devices of a decorative nature for temporary wear on ceremonial occasions. Then, after the ceremony, the uniform would revert to the undress blue again by merely taking off the full-dress insignia.

The Corps would probably vote "fifty-fifty" on the question of abolishing the mess jacket. It is an admirable uniform for the slight

figure and its uniqueness does make it popular with the corps at large. The way to abolish it is too obvious; count only the votes of the officers with a waist measurement in excess of thirty inches.

It is to be hoped that there will be sufficient unity of sentiment to insure a change from our present "field" coat. We all admire its appearance. It would be hard to improve on the "looks" of our winter field uniform, but unfortunately, the uniform does not, in utility, measure up to its looks. For comfort, the collar can be made low enough to please the average officer but the coat thereby loses its value as a garment to encourage military bearing, a feature upon which is based the most favorable argument for the coat. To the exercising man, in winter or summer, the coat is an abomination. Do the warm vapors from a perspiring body work out from the coat by way of the collar—as they properly should? They do not. They bank up around the shoulders and neck, even in severe weather, and the wearer is almost always overheated. This is the chief reason there is so much opposition to wearing the uniform at all times. The argument is, "Why not be comfortable a part of the time in 'cits'"? A better question would be, "Why not be comfortable *all* the time in uniform?"

Any man can march all day with an open blouse and feel little discomfort on the warmest day, but can any one march in reasonable comfort on any day with the blouse hooked at the collar? Isn't this the reason we never wear the summer "field" coat on field service? It should be possible to design a coat which would have all the merits of the open coat with none of its unmilitary features. It seems to me that the coat of the British officer does this very thing in a very admirable way and it is to be hoped that some such coat will be adopted ultimately.

Inasmuch as we have been aping the British for a century or more in the matter of uniforms, it does not appear that one more "ape" will make a great deal of difference to our pride. Our present uniforms are not so much a product of American tradition that they go back to the Plymouth Rock or the Boston Tea Party. But the chief argument against the British coat is that old gag to the effect that we cannot afford to copy too closely the uniforms of Continental nations and Great Britain. Perhaps we should not "copy" but we can devise a uniform which will include some of the improvements of foreign uniforms.

In a discussion, one will very generally find that the majority

of marine officers favor a coat with a rolling collar with soft shirt and tie. Our overcoat could be improved in the same way.

As long as we are compelled to wear the uniform at all times, is it not advisable that we be permitted to wear the long trousers at any time, except in line with troops?

The suggestion of Major Hill to abolish khaki summer uniforms is noteworthy. It is worthy of a trial; anything is which may relieve us of lugging around ten to fifteen suits of khaki on expeditionary service.

Could we not to advantage change our flannel shirt to a shade similar to our winter field? And why not adopt a similarly dyed khaki if khaki is to be retained? The Army wears the brown olive drab uniform in winter and the greenish khaki in summer. The Marine Corps reverses the color process. Is there any objection to adopting one shade for all uniforms and other dyed equipment?

The probability of future service bringing the Corps into closer contact with foreign service makes the adoption of the Sam Brown belt almost imperative. It is rather a nuisance to wear but it has become the world over the unmistakable sign of an officer (something our own services have always lacked) and it should be added to our equipment as a perpetual remainder of that remarkable campaign in France which gives everyone of us such a warm glow of pride in our fellow-officers and men.

By Colonel Henry C. Davis, U.S.M.C.

I have read with a great deal of interest the article by Major W. N. Hill of the Marine Corps relative to the changes in the Marine Corps uniform that he suggests after the War and I wish to enter a vigorous protest at this time against any move looking to the abolishment of the special full-dress and mess-dress of officers of the Marine Corps.

These uniforms are characteristically Marine uniforms and there is as much tradition and reason for retaining them as can be desired by any officer in the Marine Corps. The attempt to combine the working uniform with the dress uniform is in my mind a great mistake and reminds me of the fable of the jackdaw who tried to make himself a peacock by sticking a feather in his tail. The working uniform such as the Winterfield uniform is admirably adapted to our needs. It could, however, be greatly improved upon by the adoption of a turnover collar. The adoption of the overseas cap

both in Winterfield and in blue I believe to be an excellent idea, but the adoption of an evening dress which would put me in a uniform more or less a cross between a hotel head-waiter and an undertaker is something which I do not look forward to with any amount of joy.

Relative to the cape, I can see nothing to be gained by making the Marine officer's cape appear the same as the boat cloak of a Naval officer; in fact, our very distinctive cape is one which I believe we should not under any circumstances change.

British Army Will Abolish Historic Scarlet Uniform

Scarlet is apparently destined to disappear as the characteristic hue of the uniform of the British army, not alone for field wear, but also for ceremonial full dress. King George has at the present moment, in his capacity as supreme head of the British army, a proposal, recommended by the war council, favoring the "scrapping" of all the ante-bellum full-dress uniforms and substituting in lieu thereof khaki, with a plain blue serge uniform for undress or for evening wear.

Many movements were started before the war with a view to the simplification of the soldier's garb, especially in the direction of economy. It was likewise argued that of all colors there is none more costly and at the same time more conspicuous than red. In the early stages of the great war France was obliged to abolish the characteristic red trousers of her infantry and cavalry, which had been quite as much a feature of the garb of the French army as the scarlet tunics and coats were of the army of Great Britain.

If the proposal was turned down prior to 1914, it was because the conservative element was in control, which objected to any reform or innovation on principle, and which pleaded that since Waterloo and Inkerman and other famous English victories in the first six decades of the nineteenth century had been won by troops wearing red coats that hue had become more or less sanctified for British military purposes.

KHAKI GAINS PRESTIGE IN WAR

But the battles of the great war which has recently been brought to a close have transcended those of any former campaigns. They were all fought and in many cases won by British troops, not in

scarlet, but in khaki. Khaki has consequently acquired thereby a species of military sanctity. That is why khaki, the now familiar garb of British heroism, of British endurance and of British victory, is to take the place of red. For the familiar "thin red line," the expression "a thin khaki line" will have to be substituted in its stead.

With the red coats will go the huge bearskins of the Foot Guards, the cuirasses of the Horse Guards and Life Guards, the busbies of the Hussars, the 'czapkas" of the Lancers and, above all, the cherry colored breeches of that particular Lancer regiment which served to endow this crack corps with a nickname resembling that of Cherubim. The Horse Artillery will have to sacrifice its lavishly gold-embroidered jackets, and presumably also the cocked hat—that is to say, the three-cornered chapeau—worn as full dress by all field officers from field marshals down to staff captains, will have to go.

WILL SACRIFICE ADORNMENTS

It cannot be denied that the British army will lose most of its picturesque features and of its decorative glamour. Various crack regiments will grieve for the disappearance of certain adornments that had served to distinguish them from the remainder of the forces and that helped to keep alive their esprit de corps. But this is an age of utility and of economy rather than of luxury and of art, and what officers and soldiers will lose in their appearances they will gain in their pocketbook. Moreover, the word "uniform" stands for uniformity, and with all the British army garbed in khaki there will assuredly be far more of military uniformity than there was before the war.

Only the yeomen of the guard, popularly known as the "beef-eaters," are to retain their distinctive uniform. To put these gallant veterans into khaki would be an act of vandalism. Their peculiar dress has remained unchanged since the reign of that Bluebeard monarch King Henry VIII, and it is seen to its very best advantage with the appropriate background of the Tower at London, Windsor castle or St. James palace. Elsewhere it seems an anachronism.—Taken from *The Washington Post.*

TO DISABLED MARINE CORPS OFFICERS AND ENLISTED MEN

YOUR government will pay the expenses of a professional or vocational education for any man who has been discharged from the service, and whom the Bureau of War Risk Insurance has declared to be a compensable case, provided re-training is feasible in the judgment of the Board.

In addition to paying the tuition expenses of the education, the man will be paid either a minimum of $65 a month or the base pay of his last month of active service, whichever is the greater, during the entire time that he is being re-educated.

You owe it to yourself and to your family to make a thorough investigation of this opportunity. Write or call immediately at the nearest district office of the Federal Board for Vocational Education whose Headquarters are in Washington, D. C. A list of the District Offices follows:

District No. 1: Maine, Vermont, New Hampshire, Massachusetts, and Rhode Island. Office: Room 433 Tremont Building, Boston, Mass.

District No. 2: Connecticut, New York, and New Jersey. Office: Room 711, 280 Broadway, New York.

District No. 3: Pennsylvania and Delaware. Office: 1000 Penn Square Building, Philadelphia, Pa.

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District No. 11: Wyoming, Colorado, New Mexico, and Utah. Office: 909 Seventeenth Street, Denver, Colo.

District No. 12: California, Nevada, and Arizona. Office: 997 Monadnock Building, San Francisco, Cal.

District No. 13: Montana, Idaho, Oregon, and Washington. Office: Room 539 Central Building, Seattle, Wash.

District No. 14: Arkansas, Oklahoma, and Texas. Office: 810 Western Indemnity Building, Dallas, Tex.

PROFESSIONAL NOTES *

CAMOUFLAGE OF A BATTERY

A PHOTOGRAPH taken at the time of snow on the northeastern front of Verdun disclosed a hostile battery very skillfully emplaced. This battery was in the southern part of the Forest of Spincourt and to the north, immediately on the edge of a pond, across which it shot. It was absolutely invisible on vertical photographs taken in the summer time, as it was hidden under the high trees of the forest. As it fired across the pond it had nothing to fear from dust clouds which might have given away its position in dry weather. It furthermore escaped from the disadvantages of batteries in a high wood which would have been obliged to cut down trees in front of the guns to clear their field of fire, which would reveal the batteries by very characteristic gray spots.

Finally, all short shots fired on the battery were without danger, as they fell into the pond.

The pond having frozen over and being covered with snow, the battery fired and was revealed by its four blasts.

ON THE IMPORTANCE OF IDENTIFICATION

(EXTRACT FROM AN ORDER)

The far-reaching value of identifying the enemy's units along all parts of the front, as well as in the rear areas, is rarely appreciated fully. Intelligence officers should seek to bring home to the officers and men of their commands not only the importance to the army as a whole of obtaining these identifications, but also its immediate application to the troops of the sector.

To the army, identifications mean full knowledge of the disposition and movements of the enemy's larger units. Possessing this knowledge, it is easy to judge the enemy's intentions and plans, and by carefully gauging them, to bring them to nought. To lack this knowledge not only entails the danger of heavy losses, but of severe tactical and strategical reverses.

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* By courtesy of M. I. D., General Staff, U. S. Army.

To the troops of the sector each fresh identification is a guarantee of safety, a guarantee that no surprise can be brought about by the enemy which the commander of the section is unprepared to meet.

The means of identification should be impressed on all officers and men. A shoulder strap on a uniform, or an identification tag taken from a dead body might very easily, if promptly turned in to the Intelligence officer, and as promptly reported by him, make all the difference between victory and defeat, might be the means of saving the lives of many thousands of our own men. Under these circumstances, no terms of condemnation are too harsh to describe the conduct of those who either wilfully or through ignorance betray their comrades and their country by pocketing as souvenirs these petty articles which possess for the moment such great military importance, if properly utilized. Any article of uniform or equipment obtained from the enemy may afford the means of securing an identification and should be presented immediately to the Intelligence officer for investigation. The papers taken from prisoners, or from the bodies of the killed, including the diaries, notes, letters, postcards, and even picture postcards containing nothing but an address, afford the means of obtaining numerous identifications and are of priceless military value.

It is as important for our success that these facts be made known to every officer and man who is to serve in the front line, as that they be trained in the methods of attack and defense. Intelligence officers should, therefore, use every opportunity to impress upon everyone, tactfully and forcefully, the importance and means of obtaining identifications.

GERMAN PRECAUTIONS TO DISGUISE INTENTIONS

The measure of secrecy used by the Germans in their preparation for offensives necessitated counter precautions. The following is a summary of the methods by which the enemy attempted to hide his intentions.

"Secrecy Organization (July 16, 1918):

"Army Security Officer: In order 'to study the necessary measures to insure the secrecy of operation and to supervise the execution of these measures,' the XVIIIth German Army (in

orders dated April 2, 1918, Ia. M. No. 65) appointed a General Staff Officer as the 'Army Security Officer' (Sichergun offizier), at the head of Section Ia. M. 2 of the Army Staff.

"Group and Divisional Security Officers: In the same orders, it was laid down that a General Staff Officer should be detailed in each group and Division to perform similar duties.

"Regimental Security Officer: From a captured order of the 16th Inf. Regt., 14th Div., dated June 27, 1918, it appears that, in infantry regiments, an officer is detailed to carry out the duties of 'Regimental Security Officer.'

"Supervising Officers: The same order also states that the sector of the 14th Div. was divided into four security zones, to each of which was allotted a 'Supervising Officer.' The duty of these officers was 'to satisfy themselves personally that measures of security were taken in their area.' They were 'responsible that all new constructions, which could be observed by hostile air reconnaissance, should, both while under construction and after, be continually camouflaged against air observations.'

"Zone of Observation: In the orders of the IId German Army, dated January 22, 1918, it was laid down that, in order to conceal movements, groups were to divide the forward area into zones of observation.

"Zone I. The zone under enemy observations from the ground.

"Zone II. The zone under enemy observation from balloons.

"Certain restrictions of movement by day in these zones were laid down, the strength of parties and the interval between them being limited according to the conditions of visibility.

"Similar restrictions are still in force, probably universally, as shown by a captured map of the Hamel sector, dated March 22, 1918, and orders of the 6th Inf. Regt., 14th Div., on the Aisne front, dated June 27, 1918, in which two zones of observation are clearly laid down, together with orders restricting movement in these zones."

ORGANIZATION OF TERRAIN

As a general rule camouflage is erected before new work is started. Mortar is plastered on the surface of wet concrete work, and into this moss, roots and weeds are stamped. Otherwise the concrete is painted in large irregular patches of different colors.

In constructing new trenches and excavations, short angles, steep slopes, and exposure of new soil is avoided as much as possible. New communication trenches of common use are either tunnelled at 15 or 20 feet below the surface, or disguised by covering them with netting on which straw and branches are placed. The whole is then covered with soda or sprinkling of earth. Emplacements are constructed so as to arrange gun pits at irregular intervals. These pits are connected by trenches which are continued well out on either flank to give them as much as possible the appearance of the ordinary trench. Another practice is to make conspicuous tracks to dummy gun positions near occupied gun emplacements. Great care is taken to conceal gun pits for new batteries while under construction, and if no screen or netting is actually erected over the gun, screens or brushwood are kept close at hand to throw over the new work upon approach of Allied observers. When gun pits are made in the woods there is little clearing and wires with branches of small fir trees attached over the gun.

MOVEMENT

By Day. This has been restricted to small bodies. Unnecessary circulation has been forbidden, and guns, caissons and wagons are parked under cover. Camouflaged tops are provided for such vehicles as it is necessary to move. Visible roads in forward areas where daylight movement is attempted, are masked by screens of camouflage. Dummy screens are erected at various distances from the road to deceive artillery observers.

By Night. All movements of large bodies are effected at night. Unnecessary noise, lights and fires are forbidden. Troops are instructed to halt and remain motionless if Allied aviators drop parachute flares.

INFANTRY

Assaulting troops are not necessarily placed in the front line previous to the attack. They move up during the night preceding, and pass through the sector troops to the attack.

ARTILLERY

Larger masses of artillery have been used than ever before, but the increase has not been revealed prior to the attack. To

gain surprise the preparation has been much shortened. Secrecy in the concentration and preparation of the artillery for their tasks is obtained by:

1. Movement and occupation at night with strictest march discipline.

2. Minimum preliminary adjusting fire.

Occupation.—Little or no work is done on new emplacements. Careful movement begins some days or even weeks before the attack and batteries are put in old positions, of which there are generally a large number. If these new batteries are located they are apt to be mistaken for nomad pieces from old batteries. The remaining artillery is kept well hidden in rear and brought up at the last moment to occupy open positions. When necessary to construct new protected positions, the greatest care is taken to camouflage them and they are not occupied till absolutely necessary.

Adjustments.—Neutralization is substituted for destruction wherever possible, and gas is largely used. This enables much of the work to be done without preliminary adjustment. Tasks are minutely divided; those requiring precision fire are assigned to batteries already in the sector. The absolutely necessary adjustment of new batteries is accomplished very carefully, other batteries ceasing fire so that no increase is noted. Neutralization of battery positions, villages, camps, etc., by gas does not require precision fire. On certain points precision is compensated for by volume of fire. Destruction of front line trenches is accomplished by trench mortars. The accompanying batteries destroy strong points with direct fire at short range during the infantry advance. Sufficient data is obtained by new batteries occupying old positions from notes of those positions. For new positions where absolute precision is not required the map gives sufficient data. Batteries in open positions, brought up just before the attack, can use direct fire.

In the days immediately preceding the attack, there has been a noticeable decrease in artillery activity. Anti-aircraft fire is increased.

SIGNAL COMMUNICATION

Radio Telegraphy.—Radio activity is carefully controlled so as to give an indication of change in troops. Before the March offensive there was greatly increased activity in certain areas,

while in others radio communication practically ceased. Along the front actually attacked, the number of messages exchanged per day was kept normal. Other attacks have occurred, some following a period of great radio activity, others after radio activity has appeared to cease entirely.

Most stations change their calls daily, and frequently make use of two or more call signs on the same day, so that the number of stations in an area may be increased or decreased without apparent change in the number of calls. Some cases have been reported in which the enemy appeared to move his radio stations from place to place during the day, and at the same time changing the call letters, the wave length and the tone. These instances have, however, been few and have not been definitely confirmed.

Earth Telegraphy.—This means of communication is used only near the front lines. Messages are few in number, except in certain areas where activity has been increased for short periods, evidently for the purpose of attracting attention to those areas.

Telephone.—Elaborate precautions are taken to prevent interception of telephone conversation. No lines except those to observation posts are permitted in advance of battalion headquarters. Lines connecting adjoining battalions are required to run well to the rear in the form of the letter " V " or " U." When regiments use the telephone to the rear, all lines running to the front are required to be disconnected.

Use of Code and Cipher.—Orders respecting the use of code and cipher cover the most minute details. No message sent by radio or earth telegraphy is permitted to contain any words in clear. It is ordered that messages sent in one code must never be repeated in any other code, or in the clear. The sending of form reports is prohibited. If similar messages are to be sent, the forms of the sentence must be made different in each. Many meaningless code groups are inserted at random. The use of unnecessary words is forbidden. Many messages are so condensed that even when properly decoded, they convey information only to one familiar with the circumstances and with what has gone before. Great importance is attached to the proper use of code. An officer appears to be attached to each divisional or corps area, for the purpose of checking any indiscretions.

AIRCRAFT

Balloons.—The crews of additional balloons assigned to an offensive front receive their training by ascending from the beds of balloons known to the sector.

Pursuit.—This class of aeroplane has usually not made its appearance until a few days before an offensive. They have then usually established a defensive barrage for the purpose of preventing Allied reconnaissance. Just preceding the attack they become very aggressive, and are especially active against balloons.

Reconnaissance.—There have usually been a number of deep reconnaissances two or three weeks preceding an offensive. These are made by single machines. Adjustments, as already noted, have been very limited.

Bombing.—These units have usually operated in back areas during all favorable nights of the week preceding an offensive. Their objectives have been billets, dumps, and transportation centers.

COUNTER PRECAUTIONS

The precautions of the enemy, as outlined above, make *increased vigilance on the part of the observers necessary.* There remain plenty of indications to be properly observed and reported. Among the methods of obtaining these may be mentioned:

Organization of Terrain.—Location of working parties, and comparison of photographs. Increase in dumps, airdromes and hospitals in forward areas, are especially significant. Increase in number of anti-aircraft guns is also usually an indication.

Movement.—Careful observation and recording of train movements, making aeroplane reconnaissances by night and at dawn and sunset.

Infantry.—Frequent raids, interrogation of prisoners as to occupancy of back areas, and visual observation of rear billeting areas.

Artillery.—Observation and thorough recording of information of batteries in action, suspected emplacements, and coördination of shelling with appearance of hostile aeroplanes. Vicinity of emplacements should be watched for increase in munition dumps. Anti-aircraft fire usually increases before an offensive.

Signal Communication.—Location of radio stations by observers or photographs. Location of telephone or telegraph lines from photographs.

Aircraft.—Observation of routes and attitude of hostile aircraft, especial attention being given to routes of long distance reconnaissances and hostile bombing objectives.

PAUCITY OF INFORMATION OBTAINED FROM FRENCH PRISONERS

The following is a translation of a portion of a captured German document: "Recently there has been an increase in the number of French prisoners who give extraordinarily little information.

"They state as a rule that they have recently arrived as drafts or have recently returned from leave.

"It appears that they have been trained, and not unsuccessfully, to give the replies stated above when captured, and thus avoid being asked further questions, while at the same time this conduct does not lay them open to reprisals.

"I request that the troops be instructed to give similar answers.

(Sgd.) LUDENDORFF."

USE OF SCOUT TROOPS

The following are extracts from an order issued by the 22nd German Division under the date of May 26, 1918, on the subject of scout detachments (Spaehtrupps):

I. *Mission of Scout Detachments.*—The taking of prisoners as often as possible will be the principal mission of scout detachments. Observation is an important but secondary mission. This principle must be the basis of the formation and instruction of scout detachments. Success will most often be obtained by making sudden and surprise attacks on patrols and hostile outposts in front of the lines or within the enemy's position. Scout detachments will not hesitate to remain several hours every night in ambush. This kind of activity requires men who are particularly resourceful and full of initiative, with a sense of the terrain and ready to attack the enemy at sight.

Undecided and hesitating men who are not capable of taking advantage of the right moment are of no use for scout detachments. The leader of a scout detachment is to be a model for his men. He will neglect no occasion for inspiring his men with

a deliberate and offensive spirit and of training them to act on their own initiative. The preliminary condition for success in a scout detachment is the ability to recognize the indications of the enemy's activity. This information is to be obtained in the two or three days following entry into the sector. It is also necessary that scout detachments post observers, as soon as they arrive in the sector, to see and listen for the enemy's movements by day and by night.

This watching of the enemy is to be directed on the following points:

Movements of patrols: Work on accessory defenses, with reports on the importance and nature of these defenses; gaps in the entanglements; guards; nature of the terrain; facilities for cover; noise of digging; fresh earth; traffic within the enemy's lines; smoke; sound of voices; barking; observation posts in the trees; command posts; movements of signallers; visual signal stations.

This information will be completed by aerial photographs and accurate data on the position of the troops.

II. *Carrying Out Raids.*—A complete picture of the life of the enemy is quickly obtained by the method indicated above, and it is on this basis that the leader of the scout detachment will lay his plans.

Carrying out the raids then is comparatively simple.

It is necessary that in all cases reconnoitering detachments, attacking from the front, be of sufficient strength (about 20 men), for many patrols are sent out from the main detachment for flank and often rear protection. These patrols will be equipped with light machine guns.

When patrolling is to the front it is particularly necessary to get into position before the enemy does; that is to say, as early as possible in the evening at points between the lines where the enemy is known to pass. Strong hostile patrols will be attacked with sudden impetus and captured after a short but violent fight with rifle fire, machine guns and hand grenades; it is preferable to attack single men without firing.

Accurate observation of the enemy's accessory defenses may also make it possible to attack him from the rear while he is working.

III. Captured prisoners will be brought back by the party and the killed will be stripped of the insignia of their uniform (collars, shoulder straps, buttons) and of their papers.

On the other hand, the scout detachment is bound to leave no prisoner with the enemy nor any wounded or dead; if a man is in danger every one of his comrades must know that he is to be helped to escape. If in spite of everything their efforts are unsuccessful, the honor of the soldier demands that he should refuse to make any statement to the enemy, whatever it may be; he will not betray his comrades.

It is absolutely necessary that our killed and wounded be brought back.

IV. It is of extreme importance that the battalions in the first line, before the departure of the reconnoitering patrol or before a raid, should be in touch with the artillery liaison officer, in order that the detachment may not be hindered in carrying out its important mission by friendly artillery fire.

V. The detachment must be armed and equipped according to the purpose to be accomplished. Rifle fire is especially important. Wire cutters are always indispensable. All regimental insignia and distinctive markings, letters, sketches, in short, everything that might furnish information to the enemy, will be left behind. The men who take part in the operation may carry only an identity disc bearing their name and date and place of birth.

EDITORIAL NOTES

Changes in uniform being in order the GAZETTE has decided to make its appearance in the uniform of the colors of the Corps, scarlet and gold.

The GAZETTE has also decided, in view of the increase of size of the Marine Corps and its own healthy condition, to assume a somewhat larger and more prosperous appearance.

By direction of the Board of Control, accepted articles hereafter appearing in the GAZETTE will be paid for at fixed rate per page for original articles on professional subjects. Remuneration for translations will be at a reduced rate per page.

In addition to the above, on the second Monday in January of each year the Board of Control will meet and determine by vote the best original article on a professional subject published in the GAZETTE during the preceding year. A prize of $100 will be awarded the writer of this article.

A large majority of the officers of the Marine Corps are members of The Marine Corps Association and thereby subscribers to the MARINE CORPS GAZETTE.

The GAZETTE is the magazine of the Corps. It should in its pages express the desires, the hopes, and the ambitions of the Corps. All members of the Association must take an interest if not a pride in the GAZETTE because it belongs to them, because it should and truly wants to be representative of them, and yet the contributions to its pages from the members of the Association are pitifully few. It is not a question of time, or want of material, or opportunity. It must be and is, solely a question of inclination. When the GAZETTE makes its quarterly appearance, if its pages are not replete with fresh material or represent your ideas, it no doubt

is thrown aside but—Stop—Listen—Look—the GAZETTE is your magazine—it is just what you and you and you make it.

So get busy—give the management some trouble in making out checks for you and deluge the editorial office with your ideas.

Make the GAZETTE your Gazette—the excellent product of the Corps that it should be. Get behind it, all of you, and—Push hard.

Commanding officers of all Marine Corps Posts or Units are earnestly requested to use their influence to interest the officers under their command in the Marine Corps Association.

It is believed that in this undertaking as well as in all others the Marine Corps should stand together and all officers be members of the Association.

In this connection it is desired to publish, quarterly, a percentage membership list covering the various units if the commanding officers will kindly send a list for their post or unit to this office.

Many changes in stations of officers occur during a quarter and although the GAZETTE tries to keep its station list "up to date," it is a very difficult problem. It is consequently earnestly requested that all members and Associate members, upon changing station, immediately inform the Secretary-Treasurer of their new address.

THE A. E. F. RIFLE, PISTOL AND MUSKETRY COMPETITION

The recent rifle, pistol and musketry competition held at Le Mans, France, resulted in practically a clean sweep for the Marines.

Photographs appearing in this issue of the GAZETTE of the winners of the important events were taken by the Signal Corps, U. S. Army, and are published through the courtesy of the Publicity Officer of the A. E. F. Competition.

A FEW LIVE TOPICS ON WHICH ARTICLES ARE REQUESTED

Maintaining the morale at a high standard in time of peace.

The strategy of the Great War.

Tactical changes due to the introduction of new arms and the effect on the organization of the Marine Corps.

Where should Advanced Base organizations be permanently stationed?

What type of transport is best suited to Marine Corps needs?

Considering organization changes due to modern tactical development, what is the best organization for Marine serving afloat?

How should the higher ranking officers in the Constabulary Detachments of Haiti and the Dominican Republic be selected?

Technical Schools for the Marine Corps.

An Educational and Training System for Officers of the Marine Corps.

APPLICATION FORM

Place.....

Date.....1919.

THE SECRETARY-TREASURER,
MARINE CORPS ASSOCIATION,
Headquarters, Marine Corps,
Washington, D. C.

SIR:

I desire to be enrolled as a member of the Marine Corps Association. I enclose herewith a check (or money order) for $5 covering the first year's dues from July, 1919, to July, 1920.

Until further notice please forward the MARINE CORPS GAZETTE to me at the above address.

Name.....

Rank.....

(All checks or money orders to be made out to "Secretary-Treasurer, Marine Corps Association.")

A CANADIAN 6″ HOWITZER, WITH GUN CREW

Notice How the Gun Pit Has Been Constructed in a Ruined House, and the Excellent Camouflage Over the Gun. Attention is Invited to the Broad Trail and Large Spade of This Type of Howitzer. (Taken Near "Vimy," France, by Major S. W. Bogan, M.C., March, 1918.)